food: the first requirement

Of the three essentials for attracting birds—food, water, and shelter—food is the most important. Without food, birds will not flock to any area. There is a direct relationship between the amount of food provided and the number of birds that will settle.

At nesting time birds of the same species will claim territories with boundaries and guard these small areas from any intruder of the same species. Because of this, only a limited number of that species will be found in any locale. But birds of different species will mingle and use the same feeding and watering stations. Birds are invited by suitable houses and nesting facilities, but the finest houses and

shelters will not keep birds in your yard if you do not provide enough of the right kind of food.

Birds need huge quantities of food compared to their size. If we all ate "like birds" we would have endless meals that daily almost equaled our own weight. In natural surroundings enough food is usually supplied by trees, vines, plants, and berries. But the average city lot, or even a fair-sized garden or country lot, cannot provide enough food for more than a few birds. Food must be supplied to encourage a high bird population and to attract a variety of birds to the area.

There are two different types of feeding: summer feeding and winter feeding. As the names imply, these feeding methods are dictated by the weather and involve two different procedures. Many people, believe that they are doing their duty by throwing bread crumbs to birds throughout the year. it is true that they are helping by giving the birds some extra food, but they are not supplying what the birds actually like and need. The person who feeds birds correctly varies their diet according to the time of year.

Many localities have enough food to support a normal number of birds during the summer. But, if an area is lacking in trees, if there are few or no garden spots, if there is little natural or even planted vegetation, then summer feeding is as important as winter feeding if birds are to be attracted and help in the neighborhood.

summer feeding

Summer feeding will naturally bring more birds to the yard and garden. Birds brighten our lives which is reason enough to feed them well. Indeed, summer feeding of birds is a greater benefit to people than to the birds themselves.

With a little patience and time, most birds can be trained to come up to your house. A friend of mine, who has a beautiful home in a well-wooded area on the outskirts of a large city, built an ordinary platform feeder and placed it at the edge of the woods. Here he fed the birds every day. At the end of each week he moved the feeder, which was on a pipe, about 5 to 6 feet closer to the house. The birds scarcely noticed the change of location and day by day came to the

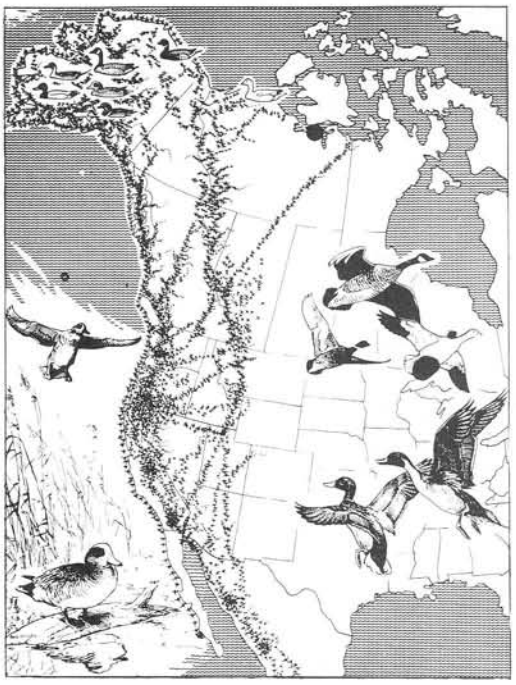
feeder, and each week came a little closer to the house. In a short time the feeder was right outside the windows facing the breakfast nook and kitchen. The birds became accustomed to the location, the noise and movements in the house, and the closeness of the people. They were not too easily frightened and seemed to develop confidence in their benefactor. As a result, every day as my friend and his family eat breakfast or lunch or as his wife works in the kitchen, they have an audience of pert little kibitzers looking on. Their songs and antics and their friendliness and trust can be enjoyed not only during the summer but in winter as well and thus they provide year-round entertainment. Although the birds do benefit by the feeder during the winter and actually need it, these people engage in summer feeding primarily for their own enjoyment.

Avoid overfeeding birds in summer. During this time they instinctively look for natural food in the form of weed seeds, insects, and wild berries, and summer feeding may make them too reliant on their unnatural source of food. Summer feeding does give the birds a change of diet which they appreciate. It has another advantage: due to nesting habits, birds are usually scattered over a wide area in summer. Feeding them at this time of the year will sometimes bring more birds into a given area.

winter feeding

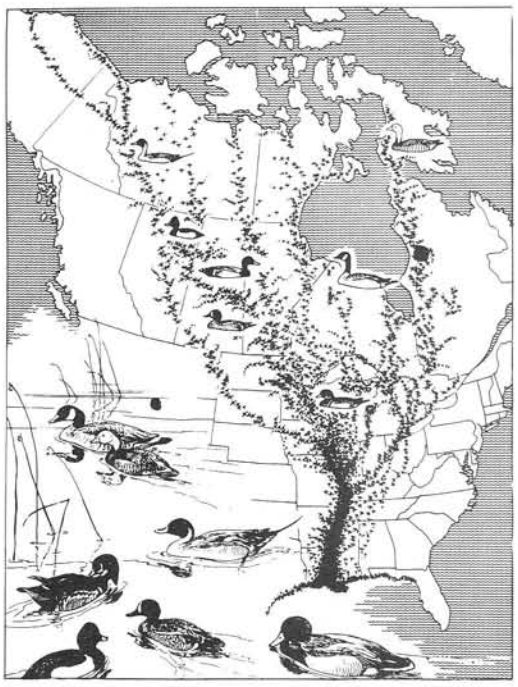
Winter feeding is the more important and practical phase of feeding birds. With the arrival of cold weather and snow their natural food becomes scarce. But a warning must be given at this point. Do not start to winter-feed and then give it up. Once feeding is begun, it must be continued; if not, you may be guilty of killing hundreds of birds. Winter feeding makes birds dependent upon man and if it is stopped there is no substitute for this source of supply which has lured the birds from their natural wintering quarters. If you have enticed birds into your "dining room," and invited them to be your guests, you must see them through, and provide for them the entire winter.

A successful winter feeding program must begin early in fall—even late summer is not too soon. As the birds migrate to the south, they will come to your feeders for food, and if

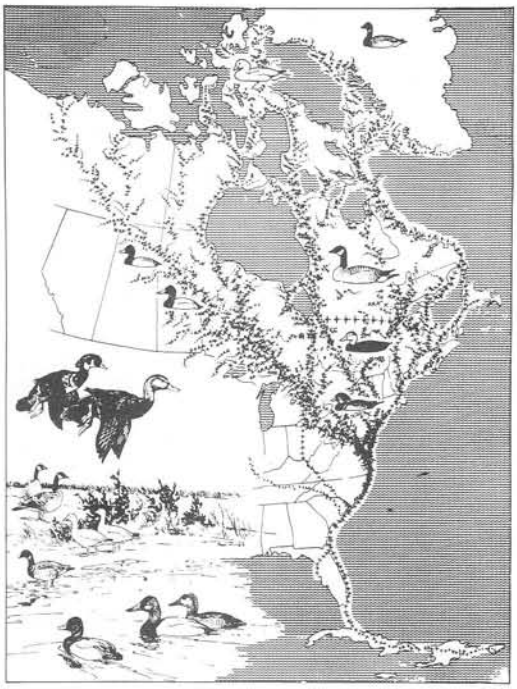


Pacific Flyway

Central Flyway



Mississippi Flyway



Atlantic Flyway

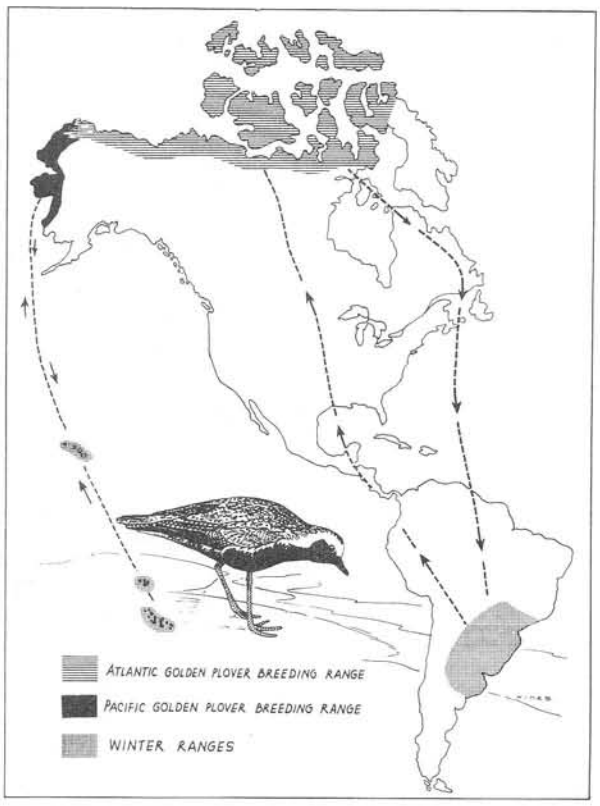
Here is a map showing the principal migration routes used by ducks and geese that pass through North America to their wintering grounds in the south. Thousands of people all over America helped wildlife biologists determine the routes or flyways used by our waterfowl between their northern nesting grounds and southern wintering areas.

the other facilities are also satisfactory, they may stay over the winter. You will have as your guests birds who normally summer north of your locality and winter south of you. A good winter feeding program will also hold over the winter many of the birds who spend the summer in your area. So, it is possible to have two groups of different types of birds, and since it is not nesting time, you will find that members of the same species will flock together in large numbers.

Begin the feeding in early fall or later summer. Local birds will be the first to become familiar with the facilities and frequent your premises. They will attract migrating birds who will also feed. Gradually the newcomers will become acquainted with the surroundings and adapt themselves to the conditions they find. Then, as the colder weather comes, they will be ready for it.

After your feeding program gets under way, follow through faithfully without missing a single feeding, because the natural food supply has been depleted. Sufficient food and water must be available at all times. Continue feeding through late winter and well into spring when the birds can again eat insects, berries, and seeds.

It would be difficult to give specific information or make promises on the kinds of numbers of birds that you will



From banding we learned Atlantic Golden Plover returns north over a different route than the one it follows south to its wintering grounds.

attract by winter feeding. Any information that would apply throughout the country would be very general and of little help.

There are many variables such as migration paths and the natural characteristics of the countryside. But by learning the requirements of their own locality, thousands of people are attracting and holding birds each year and for many years.

bird diets

To make a feeding program successful, it is necessary to know the diet of the birds you wish to attract and to duplicate their natural food as closely as possible.

On the basis of their eating habits, birds may be divided for convenience into insect-eating and seed-eating birds, although the distinctions between them is not clean-cut. Since the majority of birds fall into both categories, feeding presents little difficulty as far as variety in their diet is concerned. It is advisable to use separate feeders, some for insects and some for seeds. If you wish, you can have a combination feeder for both types of food, or for the birds that eat both insects and seeds. The more feeders you have the more numerous and varied will be the birds you attract. With several well-located feeders you will provide for the natural tendency of birds to flit about from place to place pecking, scratching, and exploring.

grit—an essential addition

Birds must take a certain amount of grit, usually a very fine sand or gravel, with their food for digestion. In normal, natural feeding, the pecking a bird does on the ground provides this grit. In winter feeding, when birds do not get enough grit this way, it must be added to their food. Usually very fine washed sand or gravel is needed. While it may be purchased, any fine sand that you can find in your locality will work. Watch where an excavation for a new building is being made and if they strike sand, take home a small bag. A little will last all winter. A teaspoon of grit to a quart of feed is sufficient. Crushed charcoal can also be used to provide grit.

suet—a gourmet food

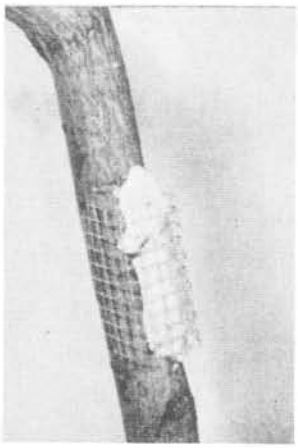
Insect-eating birds eat a large amount of animal matter, mostly insects and their larvae. The best substitute for this fare is ordinary beef suet. Suet is ideal for maintaining the high body temperature of birds, which ranges from 100 to 112 degrees F., and can be obtained inexpensively from your butcher. When buying it, ask for suet that is not stringy, but rather "short." Stringy suet is hard for birds to eat and does not melt down smoothly when rendered to make prepared bird food. You can keep suet without refrigeration and it can be melted and used as needed. All the insect-eating birds love it, and will eat it even if their natural food is available.

Chunks of suet can be tied to a tree notch with string.

how to serve suet

Suet can be served just as you get it from the butcher. You can simply place it on the feeding platform. As the birds peck at it, however, it may fall to the ground, where it will attract rats. One way to hold it in place is to nail it to the platform or to tie a chunk of it to a tree branch.

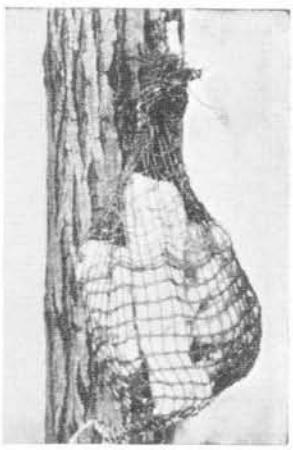
A better way to serve suet is to make a small basket 3 x 3 x 10 inches out of a ½-inch wire mesh, also known as hardware cloth. This basket can be nailed to a tree or feeder platform. Never nail the basket to any part of your house because the suet will melt, leaving a fat, unsightly stain on the building. Some persons claim that the facilities provided for birds should have no exposed metal surfaces. They believe that if birds come in contact with metal during cold weather, they may freeze to them. I know of no instance where this has happened. But, if desired, the metal parts can be dipped in liquid latex rubber or painted with latex. All metal parts in the feeders described in this book can be treated in this way.



A basket made of wire mesh will hold suet in place.

There are still other ways of serving raw suet. Chunks can be placed in an open mesh bag, such as a potato or onion sack. The bag can then be nailed to a tree or elsewhere.

The best way to serve suet is to build a suet feeder, described in the following pages. These feeders are simple to build, conserve food, and protect it from the weather. Suet combined with various kinds of seeds in cake form keeps longer and has no waste. It is simple and clean to put into the feeders. Also, it is fun to make.

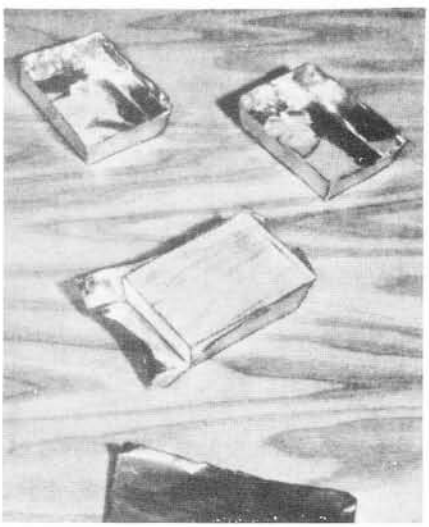


An onion or potato sack is convenient for large chunks.

preparation of suet

Making suet into cakes is simple. First put the suet through an ordinary kitchen food grinder. This will break it up into small pieces and the suet can then be melted down into a smooth mass. If this step is omitted, the suet will stay lumpy and you will not be able to pour it and mix it with

Cut heavy weight aluminum foil into squares.



Make forms by wrapping aluminum around tapered blocks.

the seeds. After the suet is ground, heat in a double boiler. As soon as it has melted, allow it to cool until it hardens.

Do not mix the suet with the seed the first time it is melted. If the suet is allowed to cool and harden, and then is remelted and cooled a second time, it becomes much harder. When remelted pour the suet into the holes in a suet log or into small cake forms made of aluminum foil. You can also use as forms the heavier aluminum foil dishes that frozen foods come in or any other receptacle you have.

Pour twice-melted suet in a semiliquid state over seeds in forms.

suet-seed cakes

Suet-seed cakes are made for birds that eat both insects and seeds and this includes the majority. As the name indicates, the cakes are made of a mixture of seed and suet. There are many satisfactory formulas of suet and seed mixtures. To produce the mixture, add to the melted suet any one or all of the following materials:

Millet	Rice
Sunflower seed	Cracked corn
Raisins	Chopped peanuts
Corn meal	Cooked noodles
Oatmeal	Cooked spaghetti

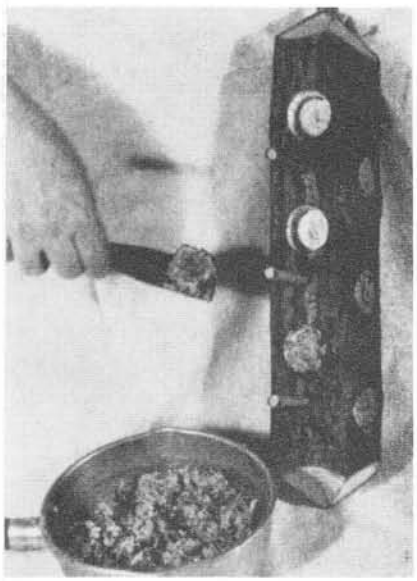
You may have additional ideas. Why not try to develop your own formula?

Melted suet can be poured over seeds in grapefruit shells, coconut shells, and other forms.

To make cakes put the seeds into any of the receptacles or forms described above. Let the suet cool slightly until it begins to set. If the suet is too hot and too runny, some of the seeds will float. If you like, you can pour the semiliquid suet over seeds that you have placed in half-grapefruit shells or in a coconut shell. These can be set out on the feeder platforms in the shells and when empty, refilled.

Two coconut shell feeders, both of which can be used for melted suet and seed, are illustrated on page 102. The one with the entrance hole can be almost filled with the mixture, leaving just enough room for the hungry nuthatches and chickadees to enter. There are many other ways in which suet-seed mixtures can be used to feed birds. You can drop the seed into the melted suet, and when it is in the plastic stage and about to harden, the mixture can be forced into the holes of a log feeder.

Suet-seed preparations make fine Christmas decorations as well as holiday gifts for the birds. When in the plastic-liquid state, the mixture can be poured over a dead pine bough. (This should not be done on a living tree since the hot suet would kill the branch.) The mixture will stick to the dead branch, which can then be attached to a living tree or used as a winter window-box decoration. When pouring the melted suet, hold another utensil below to catch the drippings, or try dipping the branch into the mixture, but that can be wasteful since some of the seeds and suet will fall to the ground.

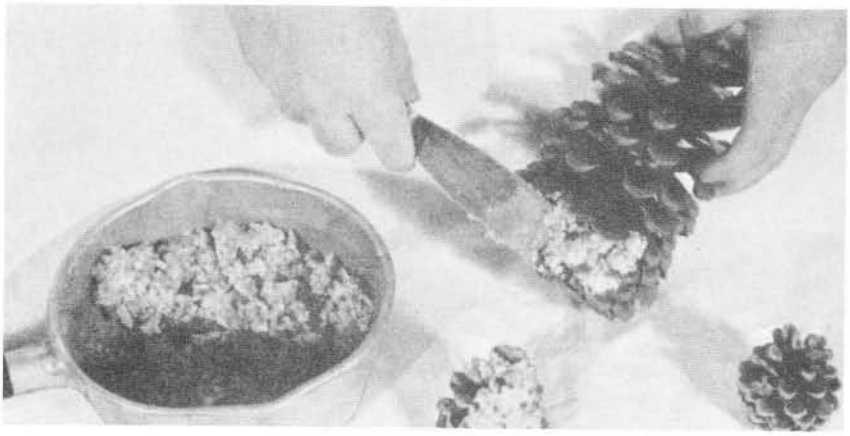


With the suet-seed mixture in a semiliquid state, press it into the holes of your log feeder.

For insect eating birds, the National Audubon Society has developed a food mixture called a "food tree" which approximates, rather closely, the bird diet provided by normal insect clusters. This formula was developed by Von Berlepsch and bears his name. The mixture is made as follows:

Bread, dried and ground	5 oz.
Meat, dried and ground	3
Hempseed	5
Millet	3
Ant "eggs"	2
Sunflower seed	3
Dried berries	1½

The ingredients are well mixed and then one and one-half times as much melted suet is added. It can be offered to the birds like the suet-seed mixtures. It was originally intended to be put on tree branches and for that reason was called the "food tree." In place of ant eggs, the dried meat can be increased to 5 ounces.



Suet-seed mixture forced into a pine cone or spread on the bark of a tree makes an inviting holiday treat for birds.

peanut butter as bird food

Many birds, especially chickadees, tree sparrows, and juncos, like peanut butter more than suet. Like suet it provides the food values needed to maintain their high body temperature. Peanut butter may be used in place of suet in all of the formulas given above; it can also be spread on the bark of trees or put in the holes of log feeders. Although peanut butter is an excellent food for many of the birds, it is expensive to use for this purpose, since many birds, sometimes hundreds, may frequent winter feeding grounds.

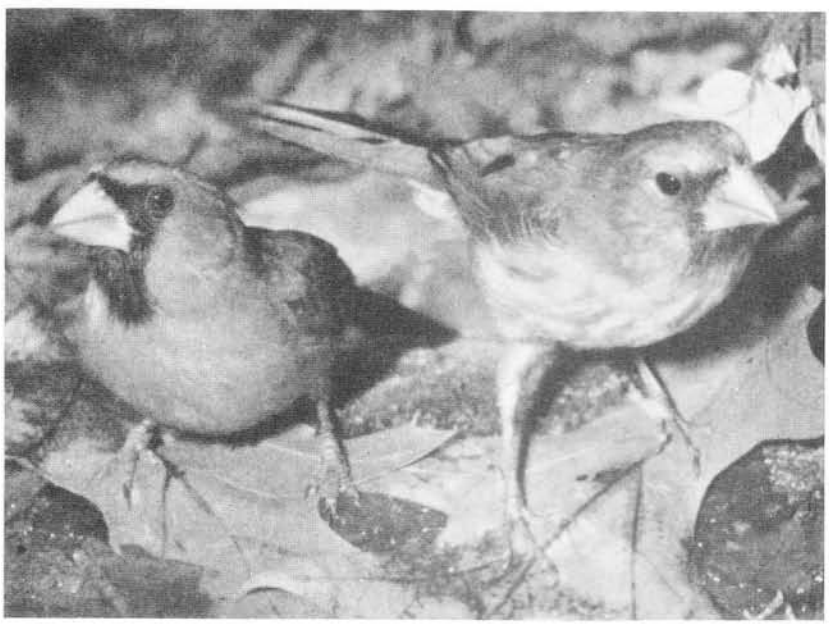
The mixing of seed and kitchen fat is a pleasant pastime and the filling of feeders is an instructive and practical way to get youngsters interested in bird watching and conservation.

fat-seed mixtures

There is no end to the variety of formulas that can be used for preparing bird food. One of the more popular—and a very low-cost mixture—uses kitchen fat. To prepare this, collect discarded kitchen fat in a can or tin cup. When you have a sufficient amount stir into it corn meal or flour or any of the seeds previously described. This will make a rather soft mass because the fat will not harden as suet does. Since it will be used principally for winter feeding, the low outside temperature will keep it firm. It is a good idea to add a little salt to all these mixtures since the birds relish it. The fat-seed mixture, as well as other mixtures, may be spread on the rough bark of trees. This is a natural location for food and birds will enjoy pecking at it there.

seed feeding

Since all birds eat some seeds, seed feeding will attract a large number of them; even predominantly insect-eating birds will turn to seeds in winter when insects are not available. Almost every type of seed is usable and your



Cardinals have a special fondness for sunflower seeds.

Allen Cruickshank—from the National Audubon Society

local feed store will be able to supply you with many different kinds. Those most readily obtainable include:

Sunflower	Buckwheat
Hempseed	Cracked corn
Millet	Wheat

Add to these such foods as nut meats, ground dog biscuit, chaff, raisins, dried berries, bread crumbs, and even rabbit food, and you have a wide range of food from which to choose. All of these and mixtures made from them have been used successfully to feed and attract birds. A fine balanced mixture that can be made from some of these ingredients is as follows:

Sunflower	30%	Millet	30%
Hempseed	30%	Buckwheat	10%

By varying this formula, you can develop other mixtures. Contact your local feed and seed dealer; he will be glad to help you. He may have a sale on some seed that is overstocked or slightly damaged yet suitable for bird use. One man I know found he could buy at give-away prices peanut butter that did not meet specifications. He now has a source of peanut butter that allows him to use it for all his feeding. Another man gets leftover seed corn and with a homemade grinder does his own grinding and cracking of the corn. The food costs him almost nothing and he is taking care of hundreds of birds.

your own seed mixture

How about experimenting and developing your own exclusive seed mixtures? Here is one way to do it: Mount two aluminum TV dinner trays on a feeding board, as shown. Tack them in place, making sure to puncture the trays so that rain and melted snow will drain out. This compartmentalized arrangement will give you the chance to see what the birds in your yard prefer. In the illustrations, cracked corn, sunflower seeds, commercial bird feed, raisins (much too expensive) and oatmeal were put into separate compartments. If you place the feeder where you can observe it at close range, you can find out what food is eaten first, and what is the birds' preference. However, birds like to scratch, and it is certain that some of the food will be spilled into the ajoining tray area.

You can pass your results on to other bird watchers and in that way help them with their feeding—all of which makes you a sort of expert.

our seed mixture

With all the bird feeding my family has done, we have finally come to a very simple formula. We have found that for this region (lower Wisconsin), the food that birds seem to like most and which attracts the greatest number of them is a 50-50 mixture of sunflower seeds and cracked corn. These are quite inexpensive and available in bag lots. You can usually buy both at a local feed store or grain elevator.

Just a note of warning: when you buy cracked corn, be sure it is cracked and not ground. Cracking breaks up the kernels into good-sized chunks. Ground corn, as the name implies, is ground and in the process a good amount of very fine "flour" is produced that is a complete waste—even squirrels do not seem to like it. If you can only obtain the ground corn that I suggest you sieve it through a piece of common metal window screening. If possible, store the bulk food in metal containers and cover it to keep out spiders and moisture.

commercial seed mixtures

There are many well-balanced seed mixtures on the market which are put up by reputable seed firms. Some of them also prepare the same high-quality mixtures under different names for local department stores, pet shops, and gardeners. These are branded as special for the firm that handles them. The seed mixtures of the leading companies make excellent bird feed, but they are more expensive than home-made preparations made from different types of seed purchased separately. In buying commercial mixes, be sure that they are put out by a reputable firm and note the proportion of seeds in the mixture. Some people have purchased what they thought was a good feed only to find that it was given bulk by the addition of a lot of filler seeds which were not eaten by the birds.

Seed may be spread on the ground by hand but this is wasteful since it becomes covered with snow. It may also attract rats to your yard.

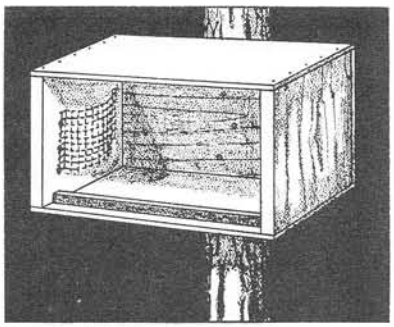
Hal Harrison—
from the National Audubon Society

how to seed-feed birds

There are many ways to feed seed to the birds. The simplest, of course, is to spread it on the ground. This method provides natural feeding conditions for birds and they will respond well to it. But the seed may attract animals that are not wanted, such as field mice and rats, and it may also spoil the appearance of your yard. In winter the feed may be covered with snow and quite a bit of seed will be wasted.

There are some birds that prefer to eat off the ground, and to take care of them during the winter, spread canvas or a burlap bag on the ground, holding it in place with wooden pegs at the corners. It can be easily removed for cleaning and the snow removed without difficulty.

A convenient, low-cost feeder made of an apple box with wire mesh to hold the suet in place and a strip on the front to prevent the seed from falling out. Nail it to a tree or post.



Perhaps the most practical way to feed birds is by feeders such as those shown on the following pages. They are simple to make and vary in design from the simple platform to elaborate window-box types. All of them have been satisfactory. You can select the ones you want to make on the basis of your skill as a craftsman.

The advantages of feeders are many. Grit can be easily added to the food. Then, too, feeders can be cleaned very easily. Since even a small child can tend them, they provide a fine opportunity for the youngsters to take part in your bird-feeding program. Feeders protect birds from their natural enemies, cats and squirrels, since most of them can be mounted on metal poles or wires with shields. In addition, most feeders protect the food from rain and snow.

After a little thoughtful experimenting, you will learn where your feeders can be placed to best advantage. A few hints may help.

For winter feeding, place feeders so that they are sheltered from the north wind. The south or east side of your house or building will provide the most sun and protection. Whenever possible, spot the feeder so that a cat cannot jump on it from a nearby fence or other structure. If the feeder is to be mounted on an upright, put a protective cone-shaped metal shield on it to prevent cats from climbing up, or mount the feeder on an iron pipe. If the feeder is of the hanging type, keep it clear of branches and use a long wire that cats and squirrels cannot negotiate.

While there are advantages in locating feeders away from buildings, it is desirable, especially in winter, to have one near a window where you can watch the birds close at hand and conveniently stock it with food. Much time is saved when you can just open a window and put out the feed for the birds.

Since birds like to flit back and forth from place to place, locate your feeders, if possible, where there are trees such as evergreens, which will provide natural protective cover for them. When they are disturbed, they can fly to cover and feel safe. Also have some object nearby, but not too

close, such as a roost, high fence, or large branch of a dead tree that the birds can use as a landing strip to survey the situation before they alight on the feeder. Birds are suspicious and want to see everything about them before they move.

A Suggestion:

It is important that you place your feeders where birds are most likely to come, but it is just as important that they be placed where you can get to them easily. This often is not done. When locating them in the fall, try to visualize what that spot will be like in the middle of winter. Is it where you usually have 4-ft. drifts? Will you normally have a path shoveled to that location? Sometimes feeders are placed where they are inaccessible during the time of the year when birds are in most need of food, with the result that food is never put out for them.

A shock of corn or other grain provides birds with food during winter, a place to hunt and peck, and excellent protection from the weather.

Don Wooldridge—from the National Audubon Society

Make the most of the bird instinct to peck for its food. One of the best methods is to have a large shock of cornstalks with leaves and ears near the winter feeders. A shock of wheat, oats, or barley can be used but corn is the best because it will afford a high perch from which the birds can view the feeder. In addition, it provides good protection from severe weather, food for hunting and pecking, as well as nesting material in the spring. Locate the shock in a good place and birds will make good use of it throughout the fall, winter, and spring.

suet log feeder

As the name implies, the suet log feeder is made of a log with the bark still adhering to it. To make one, select any type of wood, although a hardwood, such as oak, is preferable. Elm makes very good log feeders because its branches are round and straight. Select a piece 4 inches in diameter, and cut it 19½ inches long. Point the ends at about 45 degrees and drill a ¾-inch hole just below the bevel at the top for the nut of the ¼-inch eye bolt. Always use an eye bolt instead of a screw eye; a screw eye will pull out in time. Drill the vertical ¼-inch hole for the eye bolt in the upper end.

Drill the 1¼-inch holes (or larger) for the suet as indicated. Also drill holes for perches under two opposite rows of suet holes. Drive in the ¼-inch dowel perches.

Oil painted on the top and bottom will help to prevent checking.

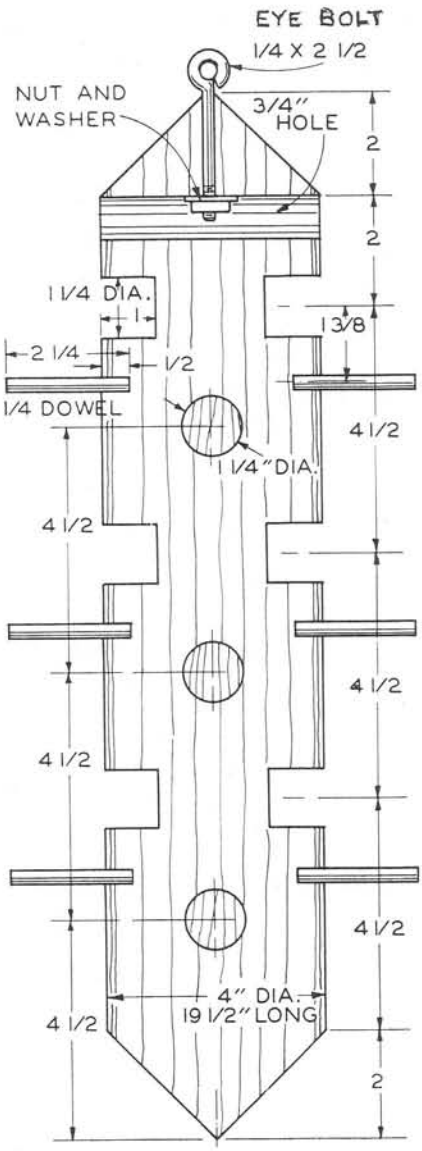
Hang the suet log feeder on long wire away from the tree for protection against squirrels. If the feeders swing too much, attach another wire at the bottom with a weight on it.

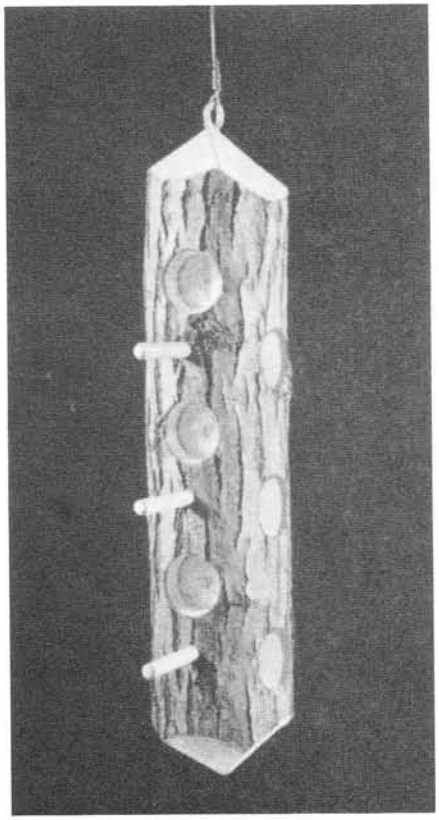
bill of materials

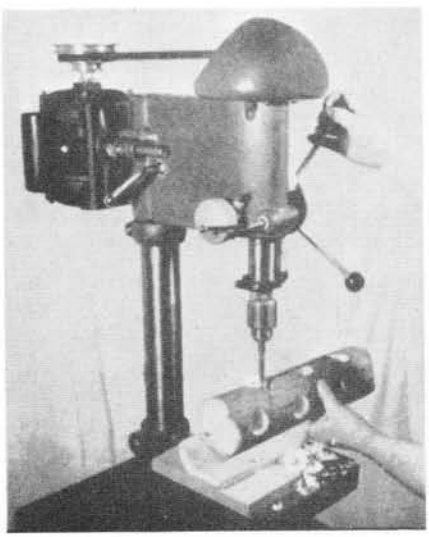
Log:	4-in. dia. x 19½ in.
Dowels for perches:	6—¼-in. dia. x 2¼ in.
Eye bolt (with nut and washer)	1—¼ x 2½ in.

SUET LOG FEEDER

MADE OF A 4-INCH DIA LOG
POINTED AT BOTH ENDS







square-block suet feeder

The square-block feeders are very versatile because they accommodate both the clinging types of birds as well as those that like a perch. Use a piece of wood 4 by 4 (3⅝ by 3⅝) by 18 in. long. Lay the wood out according to the drawing. Bevel the top and bottom 45 deg. and then drill the horizontal ¾-in. hole for the nut of the eye bolt. Do not use a screw eye because it will pull out in time. Drill the 1½-in. holes for holding the suet. On two opposite sides drill the holes for the ¼-in. perches. On the other two opposite sides, make horizontal saw cuts which will serve as footholds for clinging birds. This sawing can be easily done on the circular saw as shown. Drive in the ¼-in. dia. by 2¼-in. dowel perches.

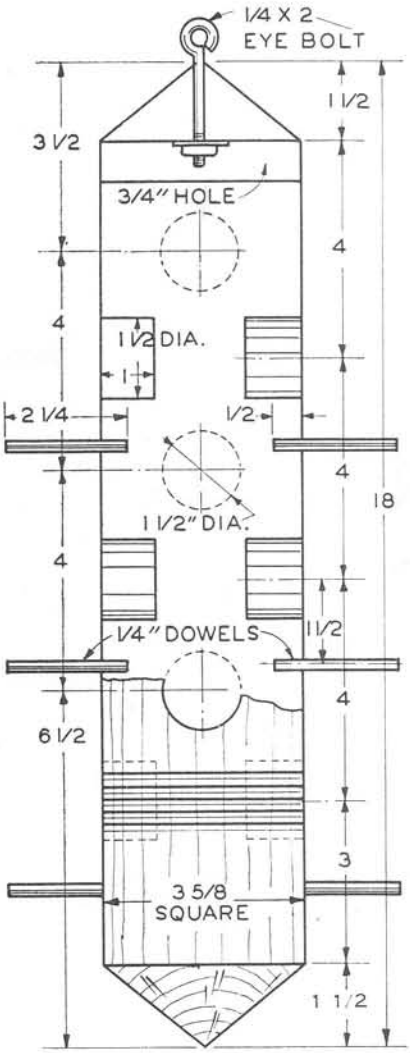
The feeder can be stained brown, but do not paint it. Allow it to weather at least a month before food is put into it. Hang the feeder on long wire away from the tree trunk so that squirrels cannot reach it. If the feeder swings too much, use a wire to attach a weight to the bottom.

bill of materials

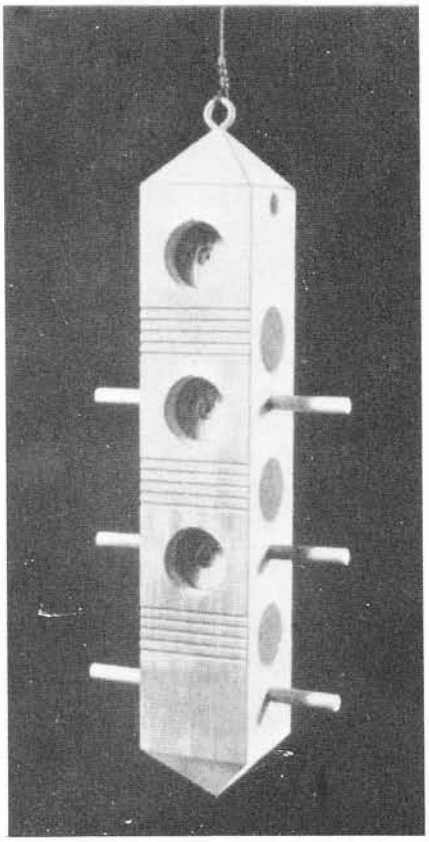
Body:	1—4 x 4—18 in.
Dowels for perches:	6—¼-in. dia. x 2¼ in.
Eye bolt (with nut and washer):	1—¼ in. x 2 in.

SUET FEEDER

MADE OF PINE 4 X 4 - 18"LONG



PYRAMID TOP
AND BOTTOM



CLING GROOVES ARE CUT
ON CIRCULAR SAW →

seed feeder and suet log

turned on a lathe

Anyone with a woodworking lathe can make this practical feeder that is attractive to birds and which is a yard and garden ornament as well. The suet is inserted in the holes in the turned body of the feeder and the seed is put into the circular troughs around the center. It has a place for grit, which is important to birds for digestion. The feeder can be made of any type of wood. Maple is best, although white pine is easy to turn and work.

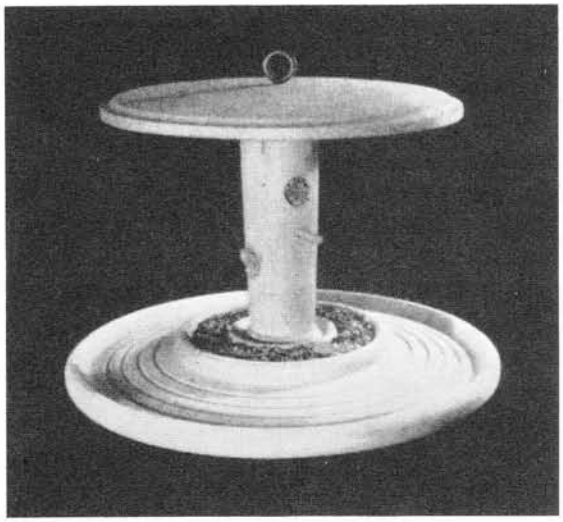
Make the upright body first. Drill the holes on a drill press if one is available. The top is made of ¾-in. stock. The bottom is made of 2-inch stock. Perhaps you will have to glue up wood for the bottom to obtain the 18-in. diameter.

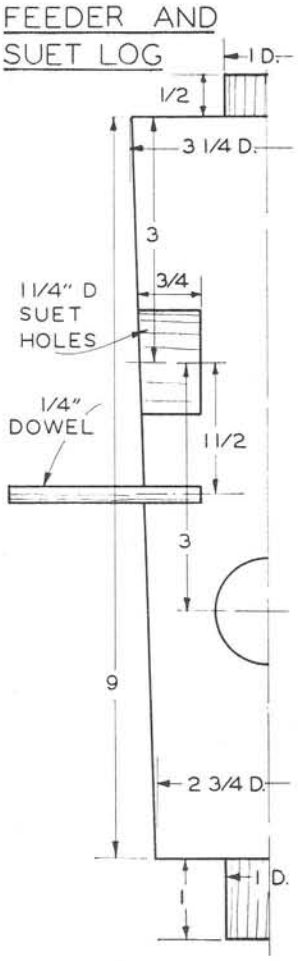
Drill holes in the body for perches on two sides of the upper holes. Screw the bottom on from below using a 3-in. wood screw. The top can be nailed on the upright body with 2½-in. finishing nails driven at an angle toward the center. A screw eye, 4 in. long, will help to hold the unit together.

The feeder can be painted, if desired, or stained. Allow it to weather before it is put up.

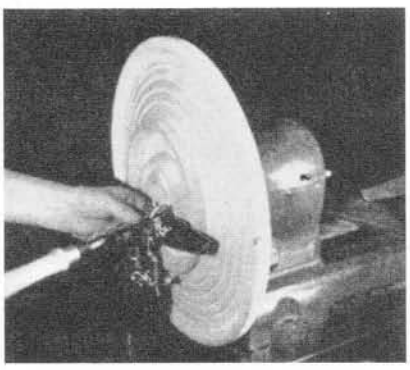
bill of materials

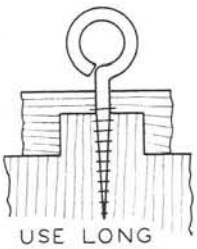
Body:	1—3¼ x 3¼ x 10½ in.
Top:	1— ¾ x 15 x 15 in. round
Bottom:	1—2 x 18 x 18 in. round
Dowels for perches:	2— ¼-in. dia. x 3 in.
Screw eye:	1—4 in. long

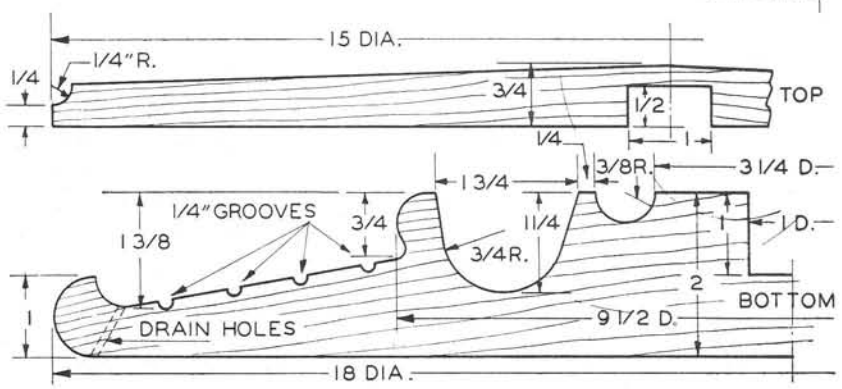




PARTS
TURNED ON
LATHE







platform feeder with suet logs

A platform feeder with suet logs allows you to serve seeds and suet at the same time. The two posts are 3 in. square by 7 in. long. The top is tapered at 45 deg. The two upper, opposite holes in the two posts have rough saw cuts below them to provide a foothold for clinging birds. The other two holes are at the lower end so that the birds can perch on the base of the feeder when eating. The holes are 1¼-in. in diameter; they may be made larger if desired. For the base which is made of ¾-in. stock a solid piece of wood or plywood can be used. Edge strips prevent the loss of seed. In the illustration, screw eyes are used for hanging; however, the eye bolts shown in the illustrations of the log feeders are better.

Give the entire unit a coat of weatherproof stain; do not paint.

bill of materials

Posts:	2—3 x 3 x 7 in.
Base:	1— ¾ x 12 x 24 in.
Side strips:	2— ¾ x ¾ x 24 in.
End strips:	2— ¾ x ¾ x 12 in.
Eye bolts or screw eyes:	2— ¼ x 2¼ in.

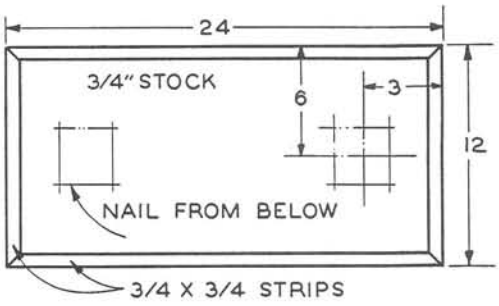
platform feeder

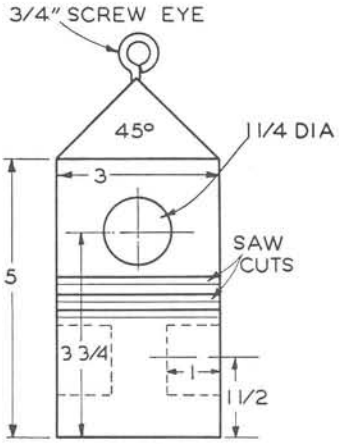
This is the simplest feeder you can build. It can be mounted on a wood or metal post. The feeder can be moved about the garden or yard as desired to bring feeding birds closer to a window or to the house. Solid stock or ¾-in. outside plywood can be used. Give the feeder a coat of weatherproof stain but do not use paint.

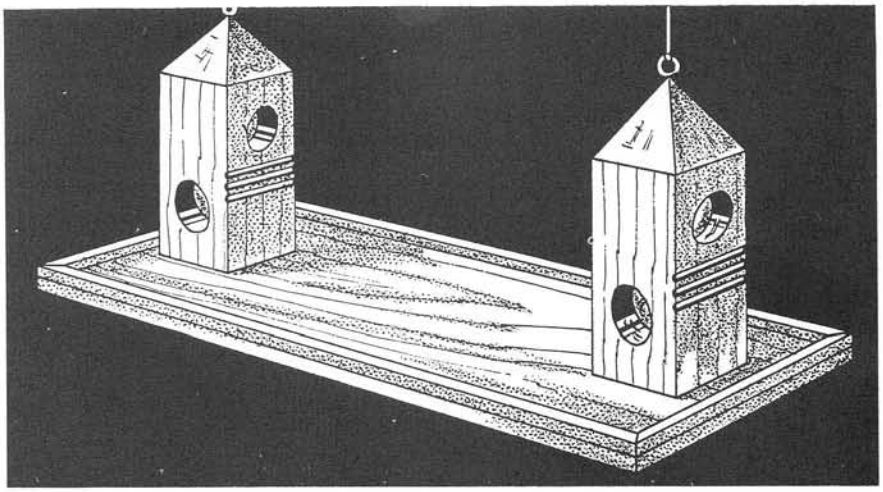
bill of materials

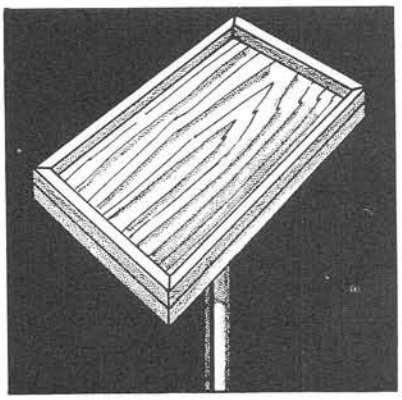
Base:	1—¾ x 12 x 18 in.
Side strips:	2—¾ x ¾ x 18 in.
End strips:	2—¾ x ¾ x 12 in.

PLATFORM FEEDER WITH SUET LOGS

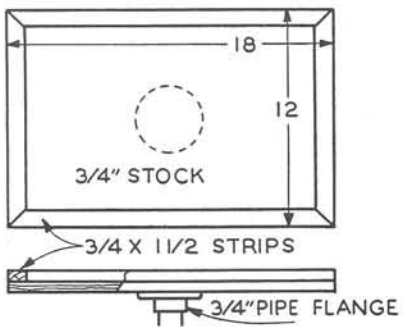








PLATFORM FEEDER



weather-vane feeder

The weather-vane feeder has always been popular because it not only protects the food placed in it; but since it rotates with the wind; it also offers maximum protection to the birds.

Lay out and cut the sides two at a time by nailing the two pieces together. Make all of the other parts. Make the ⅛ by ¼-in. groove in the sidepieces. Note that there are right- and left-hand parts. Make a groove of the same size in the bottom for the glass. Nail cleats to the sidepieces; then attach the bottom with nails. Slide the glass into position and nail on the top. Fit the vanes in place and secure them with two brads. Drill holes for the ¼-in. bolts.

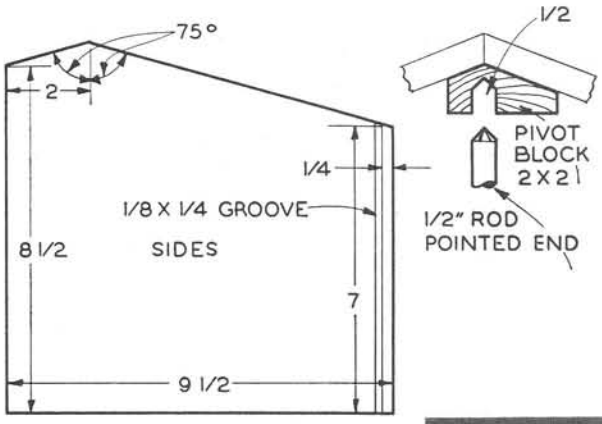
The drawing shows the location of the pivot block. This position was the exact center of gravity of the feeder made by the writer. The center of gravity will be determined by the weight of the stock used. To find the correct position of the hole in the bottom and the location of pivot block on the inside top, balance the completed feeder on some sharp object, such as center point held upside down in a vise. This will accurately locate the center of gravity, and if the feeder is correctly balanced it will swing freely with the wind.

The entire unit can be stained. It can be painted on the outside, but do not paint the floor where the seed is placed.

bill of materials

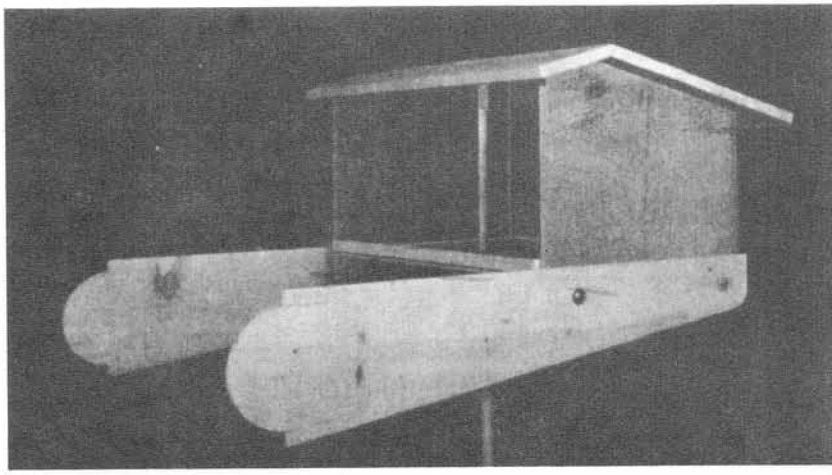
Sides:	2— ½ x 9 x 9½ in.
Bottom:	1— ½ x 9½ x 15 in.
Front roof:	1— ½ x 3½ x 18 in.
Rear roof:	1— ½ x 9½ x 18 in.
Cleats:	2— ¾ x 1 x 9½ in.
Edge strip:	1— ½ x ¾ x 16 in.
Vanes:	2— ½ x 5 x 22 in.
Pivot block:	1—2 x 2 x 1 in.
Pivot rod:	1— ½ dia. x 20 in.
Glass:	1—5½ x 15½ in.
Carriage bolts (with nuts and washers):	4— ¼ x 2½ in.

WEATHER-VANE FEEDER

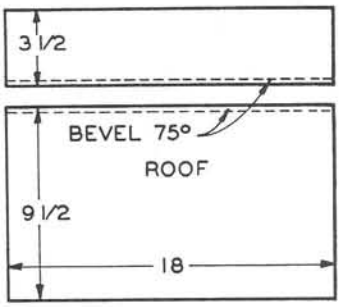


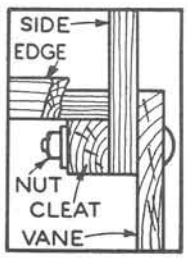
ALL STOCK
1/2"

GLASS
5 1/2 X 15 1/2

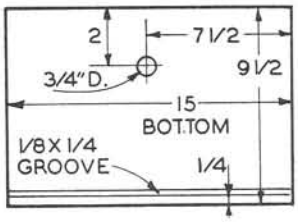


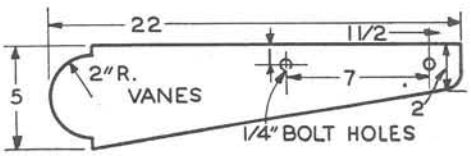
EDGE STRIPS 1/2 X 3/4 X 16

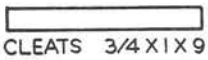




CORNER CONST.







CLEATS 3/4 X 1 X 9 1/2

trolley feeder

The trolley feeder is really a combination feeder in that it has a wire-mesh section on one side to hold suet chunks or suet cakes while the other side has a glass front and is a hopper for seeds. Both sides are protected from the weather by the large, overhanging roof.

Make the end sections first, two at a time, by nailing the pieces together. Cut in grooves as indicated, one for the glass front hopper and the other for the wire mesh. Since right- and left-hand pieces are involved, be careful to locate the grooves correctly. Then cut the other pieces. Nail cross cleats to the sidepieces; then nail the divider in place. Next nail on the bottom from below and then the top centerpiece. Bevel the top sidepieces, put in the wire mesh, and nail this top piece in place. There is enough room above the wire mesh to slip in the suet cakes.

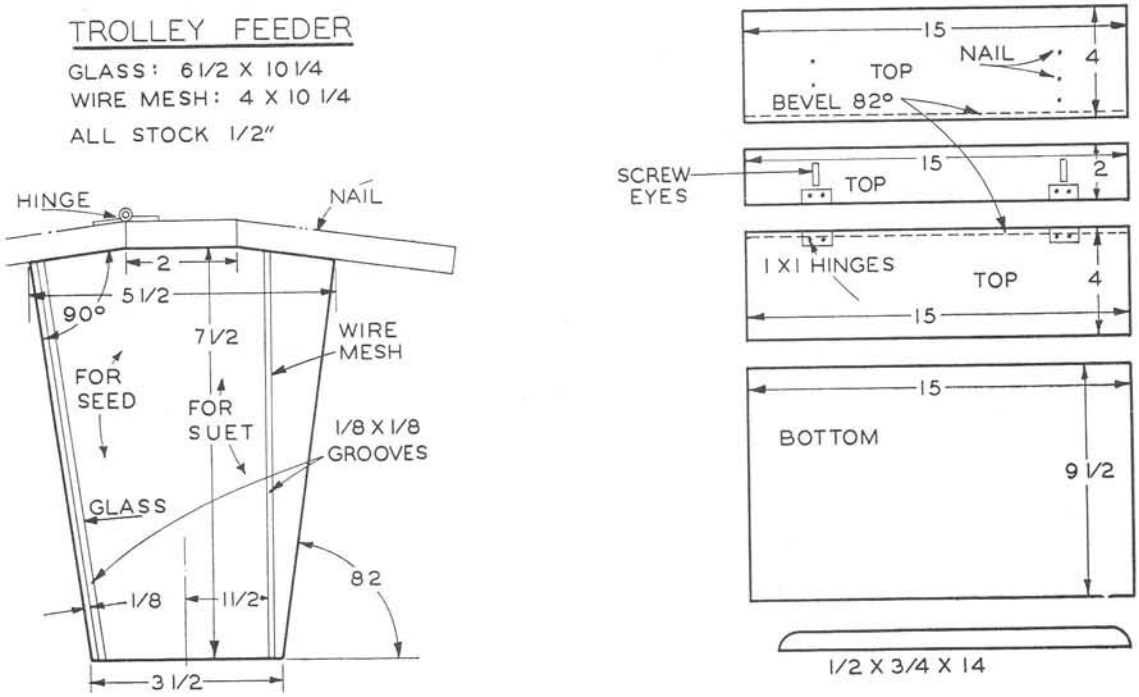
The opposite top piece covering the glass hopper is hinged to facilitate replenishing of the seed. It is a good plan to check the dimensions of the glass to see that it fits in the grooves. Nail on the side bottom edge cleats and then the two ornamental brackets. The feeder is supported by screw eyes. Two small blocks held in place with nails will keep the glass off the bottom and allow the seed to pour out on the floor of the feeder.

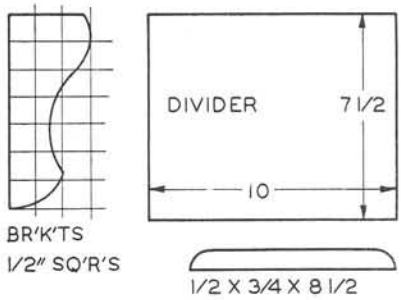
Give the feeder a coat of weatherproof stain. Allow it to weather before filling it with food.

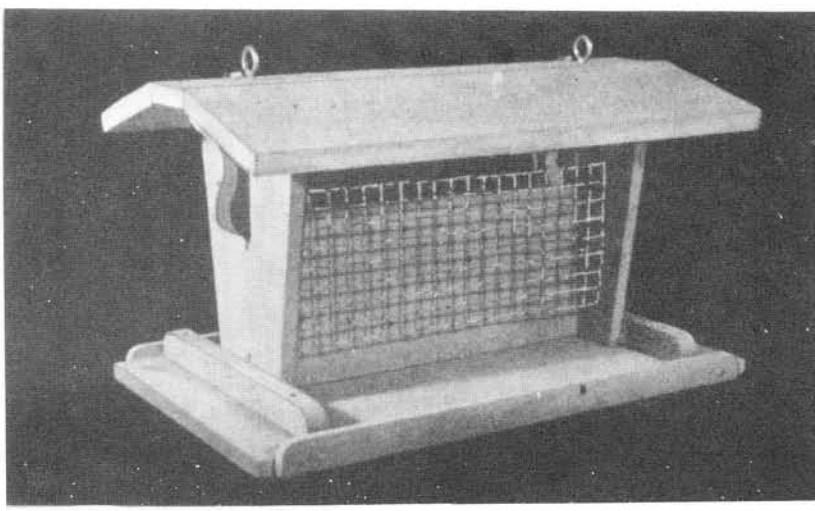
bill of materials

Ends:	2— ½ x 5½ x 7½ in.
Bottom:	1— ½ x 9½ x 15 in.
Divider:	1— ½ x 7½ x 10 in.
Top center:	1— ½ x 2 x 15 in.
Top sides:	2— ½ x 4 x 15 in.
End edge cleats:	2— ½ x ¾ x 8½ in.
Side edge cleats:	2— ½ x ¾ x 14 in.
Brackets:	2— ½ x 1½ x 3½ in.
Hinges (with screws):	2—1 x 1 in.
Screw eyes:	2—1½ in. long
Glass:	1—6½ x 10¼ in.
Wire mesh:	1—4 x 10¼ in.

The illustration below shows how the feeder can be put up as a trolley. A pulley must be installed at both ends of the line. A stout rope or a flexible cable can be used to support the feeder and to pull it back and forth at the same time. The cable or rope is run through both screw eyes, then through a pulley at either end, and finally fastened to the screw eyes on the feeder. This is a good arrangement for winter feeding to bring the feeder closer to the window day by day. It also can be operated from a second-story window where the feeder cannot be reached from the ground for refilling.







combination feeder

The combination feeder is a smaller version of the trolley feeder shown on the preceding page. It holds loose seed and suet cakes at the same time, one on either side. The food is completely protected from the weather.

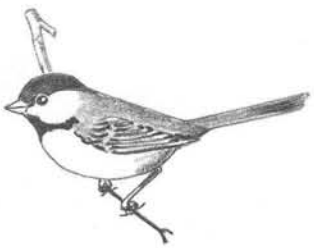
Make the end sections first, two at a time, by nailing the pieces together. Cut the grooves as shown in the drawing, one for the glass front hopper and the other for the wire mesh. Since you are dealing with right- and left-hand pieces, cut these grooves with care. Now cut the other pieces. Nail cross cleats to the side pieces; then nail in the divider. Next nail on the bottom from below and then the top centerpiece. Bevel the top side pieces, put in the wire mesh, and nail this top section in place. There is enough room above the wire mesh to slip in the suet cakes.

The opposite top piece covering glass hopper is hinged for refilling with seed. Check the size of the glass to see that it fits in the grooves. Then nail on the side bottom edge cleats and the two ornamental brackets. The feeder is supported by screw eyes. Two small blocks held in place with nails will keep the glass off the bottom and allow the seed to spread out on the floor of the feeder.

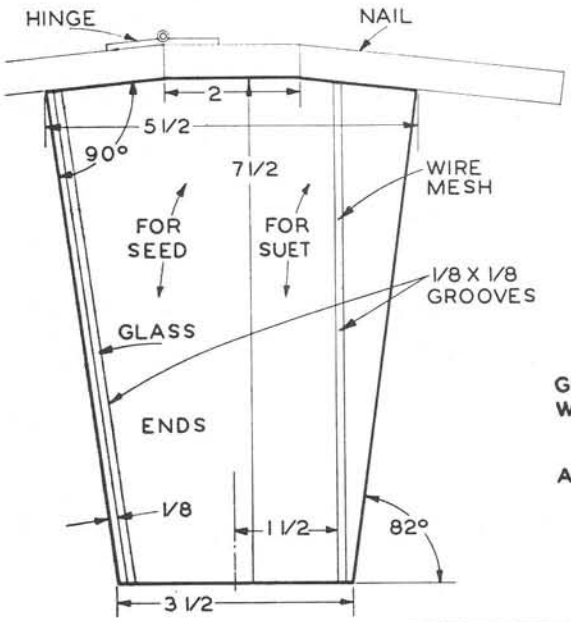
Give the feeder a coat of weatherproof stain. Allow it to weather before filling with food.

bill of materials

Ends:	2— ½ x 5½ x 7½ in.
Bottom:	1— ½ x 9½ x 9½ in.
Divider:	1— ½ x 5 x 7½ in.
Top, center:	1— ½ x 2 x 9½ in.
Top, sides:	2— ½ x 4 x 9½ in.
End and sides edge cleats:	4— ½ x ¾ x 8½ in.
Brackets:	2— ½ x 1½ x 3½ in.
Hinges (with screws):	2—1 x 1 in.
Screw eye:	1—1½ in. long
Glass:	1—5¼ x 6½ in.
Wire mesh:	1—5¼ x 4 in.

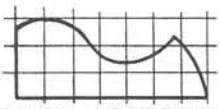


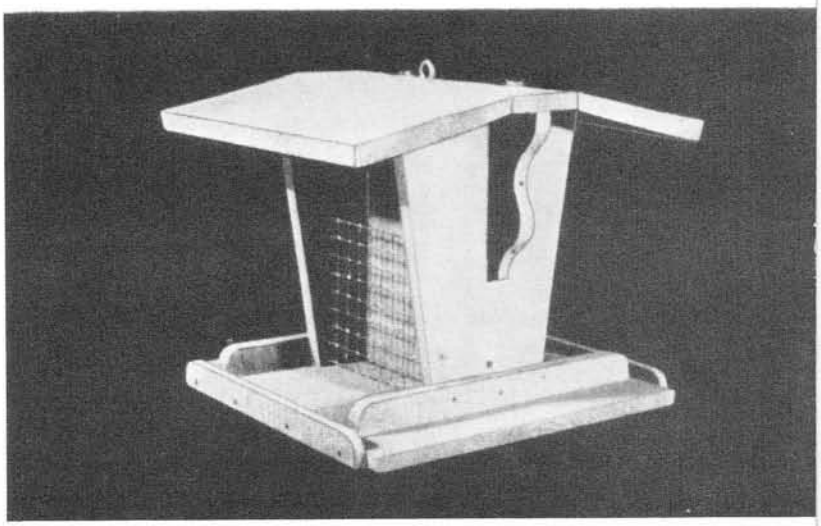
COMBINATION FEEDER

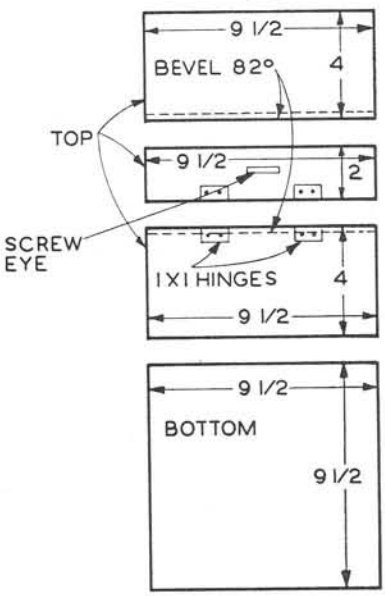


GLASS: 5 1/4 X 6 1/2
WIRE MESH: 5 1/4 X 4

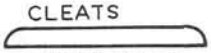
ALL STOCK 1/2"



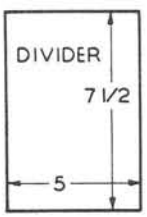


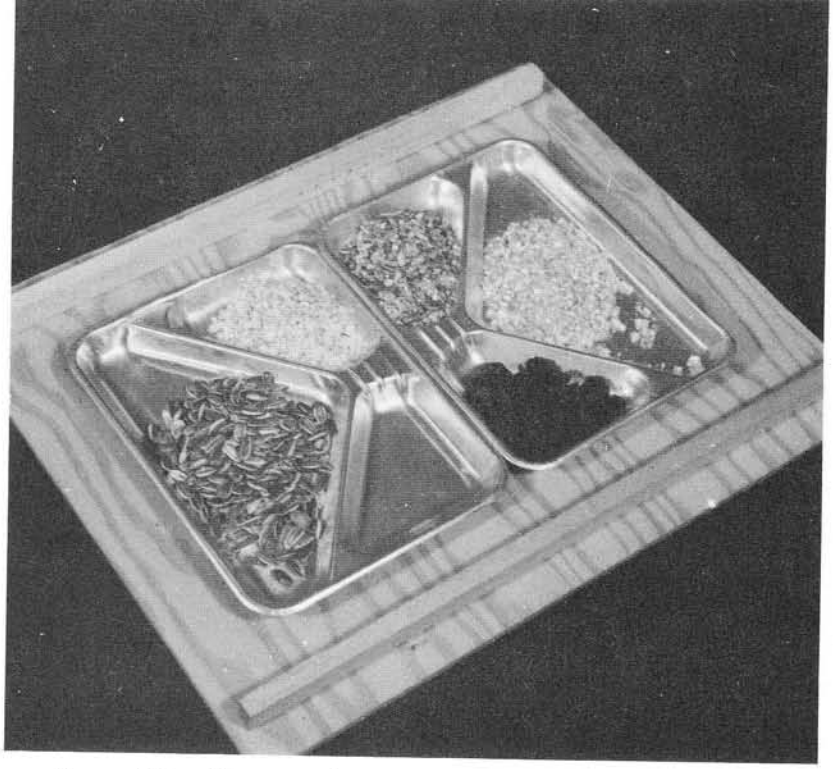


CLEATS



1/2 X 3/4 X 8 1/2
MAKE FOUR





Compartmentalized Feeding Tray

window-shelf feeder

The window-shelf feeder is very easy to make. It can be attached outside any window and serviced from the inside.

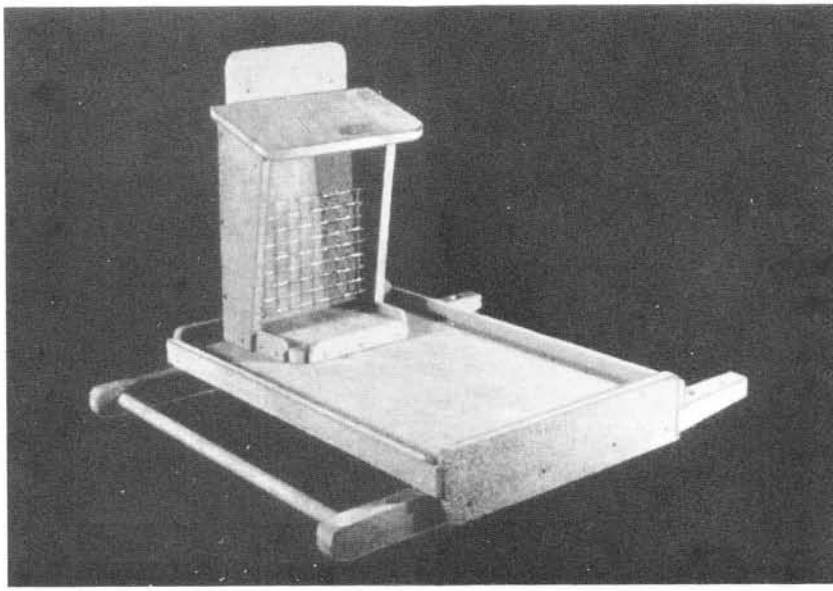
The bottom, or floor, is made from ½-in. stock. Outside plywood will work well. Make the two support brackets out of ¾-in. stock. Bevel the ends so that they fit the slope of the window sill to keep the feeder level. After the dowel perch is inserted, mount the bottom onto the brackets and nail on the sides. Mount the feeder on a sill and hold it in place with wood screws.

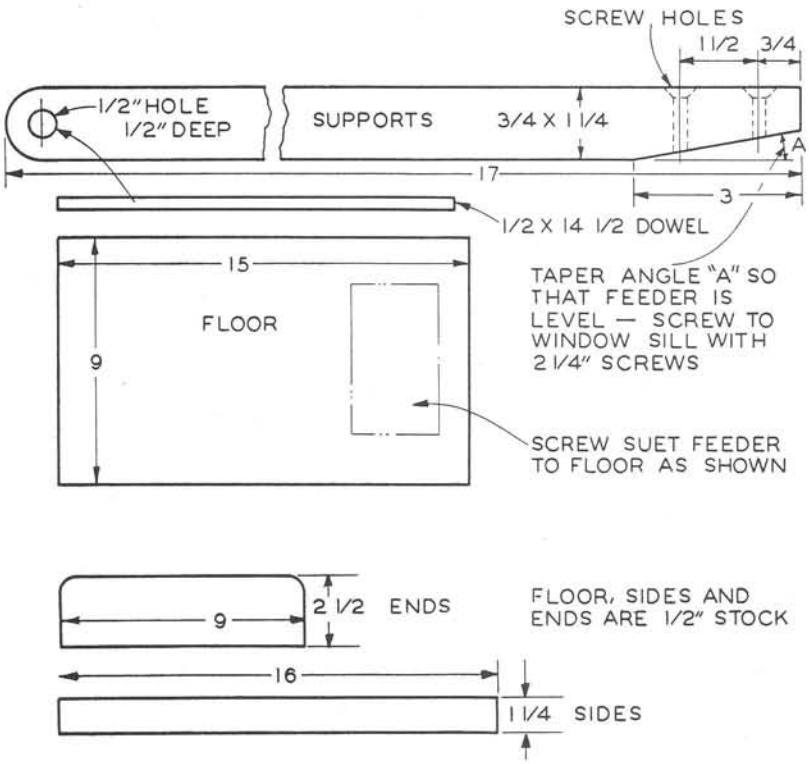
This window-shelf feeder is a seed feeder, but to make it more useful you can add a suet feeder as illustrated. Screw the suet feeder to the floor from beneath.

bill of materials

Bottom:	1— ½ x 9 x 15 in.
Brackets:	2— ¾ x 1¼ x 17 in.
Ends:	2— ½ x 2½ x 9 in.
Sides:	2— ½ x 1¼ x 16 in.
Dowels for perch:	1— ½-in. dia. x 14½ in.
Wood screws:	4—2½ in. long

WINDOW-SHELF FEEDER





glass-top window feeder

Glass-top window feeders like the one shown have always been popular and many of them have been made by homecraftsmen and shop students. This feeder gives very good protection to the food placed in it and the birds like to get inside and scratch around.

Make the two end pieces first, nailing them together and cutting them to size at the same time for accuracy. Make the ⅛-in. glass grooves at the top. Since these are cut in right- and left-hand pieces, use care in laying them out. Now cut all the other pieces. Bevel the ends of the supporting brackets to fit the slope of the sill so that the feeder will be level. Insert the dowel perch, nail the bottom to the supports, and then nail on the sides.

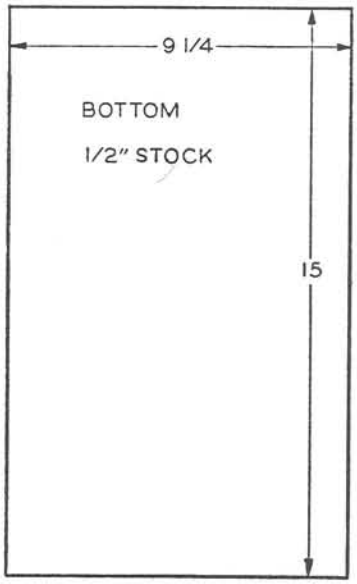
The glass edge strips are made from the same piece; that is, one piece is simply reversed or turned upside down to make the second piece. Nail on the edge strips. Slip the glass into the grooves in the side pieces and then nail in the beveled side pieces as indicated.

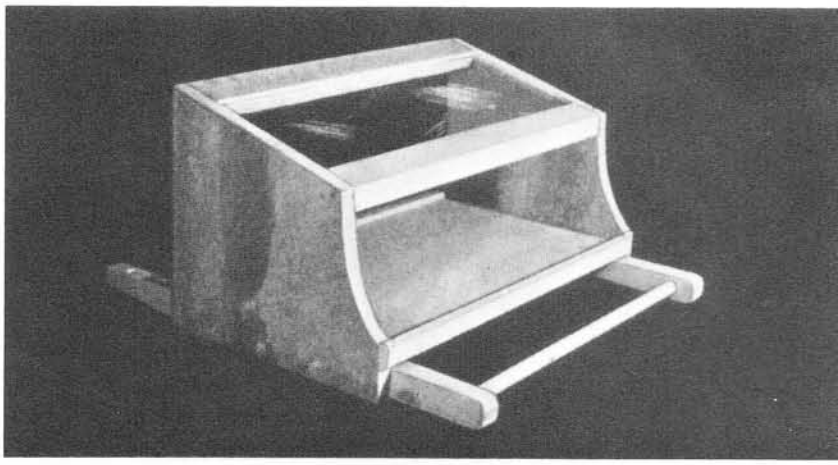
Screw the feeder to the sill. If the feeder seems to be in need of more support, install an angle bracket below it. Give it a coat of weatherproof stain, but be sure to allow it to weather before putting it into use.

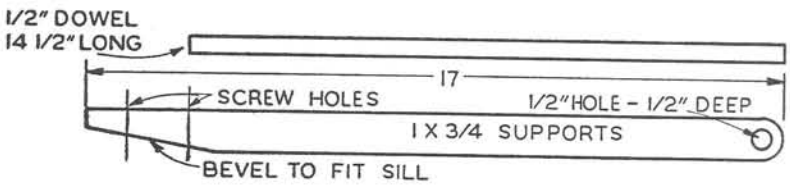
bill of materials

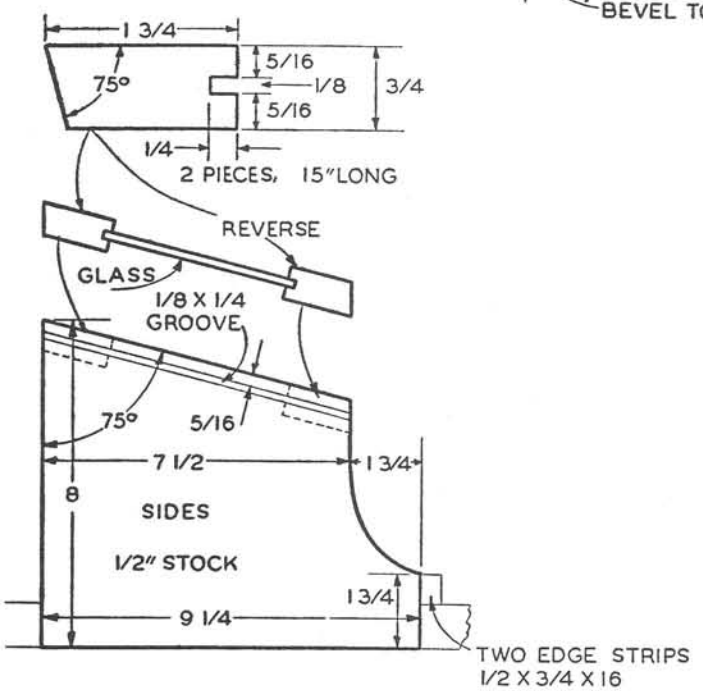
Sides:	2— ½ x 7½ x 8 in.
Bottom:	1— ½ x 9¼ x 15 in.
Support brackets:	2— ¾ x 1 x 17 in.
Glass side strips (beveled and grooved)	2— ¾ x 1¾ x 15 in.
Perch:	1— ½-in. dia. x 14½ in.
Glass:	1—5 x 15½ in.
Wood screws:	4—2½ in. long

GLASS-TOP WINDOW FEEDER









hopper feeder I

If you put up two or three hopper feeders, they will attract many birds to your yard. They can be mounted on trees and posts, or even on the side of the house or on window frames.

Nail together the stock for the sides, and cut the two pieces at one time. Cut the grooves for the glass front. In making these cuts remember that you are working with right- and left-hand pieces. Cut the other pieces. Nail the back to the bottom, and then nail on the sides. Cut the edge strips and nail them around the edge of the floor to form a retaining wall for the seed.

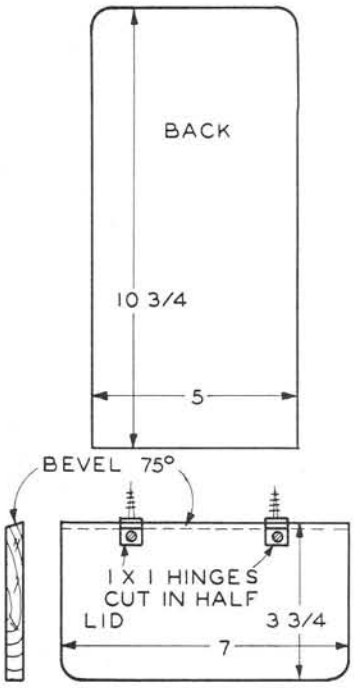
The next step is to fit the top. Note that a 1 by 1-in. brass hinge is cut in half to form the two hinges. Attach the hinged top with the hinges. Cut two small blocks and nail them below the bottom of the glass. These blocks will keep the glass off the floor of the feeder and allow the seed to pour out easily. A hopper feeder of this design protects the seed at all times.

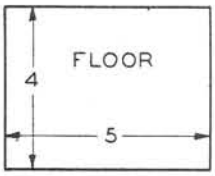
Give the feeder a coat of weatherproof stain. Allow the finish to weather before the feeder is put up.

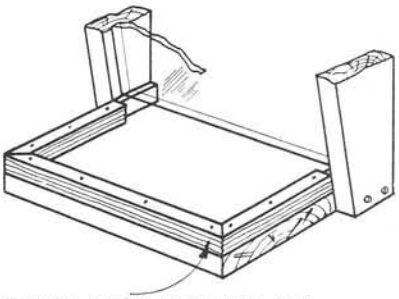
bill of materials

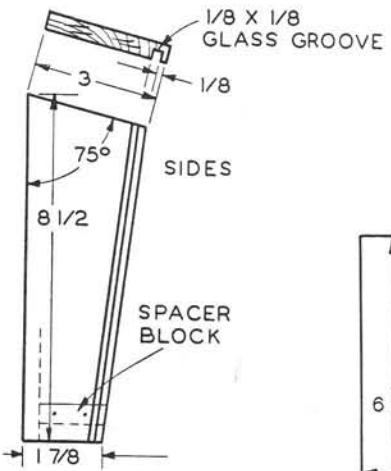
Sides:	2— ½ x 3 x 8½ in.
Floor or bottom:	1— ½ x 4 x 5 in.
Back:	1— ½ x 5 x 10¾ in.
Edge strip:	1— ½ x ¾ x 12 in.
Lid at top:	1— ½ x 3¾ x 7 in.
Glass:	1—5¼ x 6¾ in.
Hinge (with screws):	1—1 x 1 in.

HOPPER FEEDER I

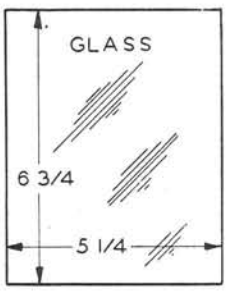


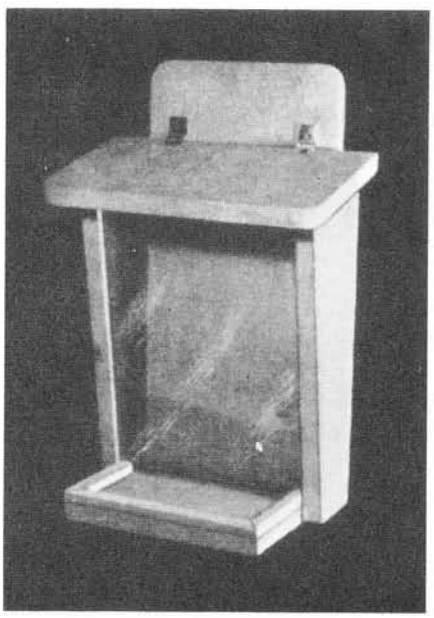






ALL STOCK 1/2"





suet-seed feeder

This suet-seed feeder is the companion to the hopper feeder shown on the preceding pages. It is also of the hopper type but has a wire-mesh front through which the birds can reach and eat the suet. This versatile feeder can be stocked with chunks of natural suet, pure suet cakes, or suet-seed cakes.

Make the two side pieces first. Nail the stock for them together and cut them at the same time. Cut the grooves for the wire mesh. Be careful in making these grooves because the pieces are right- and left-hand. Then make other pieces. Nail the back to the floor, and then nail on the side pieces with the grooves to the inside. Insert the wire mesh and nail on the top, which is not hinged. The wire can be slid up and down and there is enough space to insert the suet above the wire. Now nail on the edge pieces.

Give the feeder a coat of outside stain and allow it to weather before it is put up.

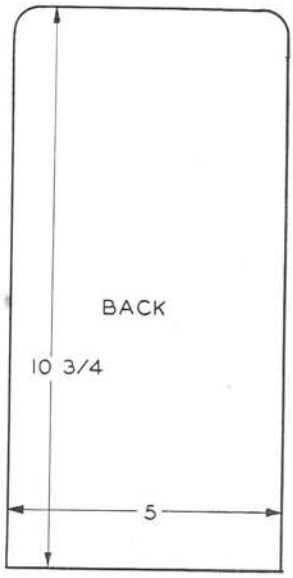
Milwaukee Public Museum Photo

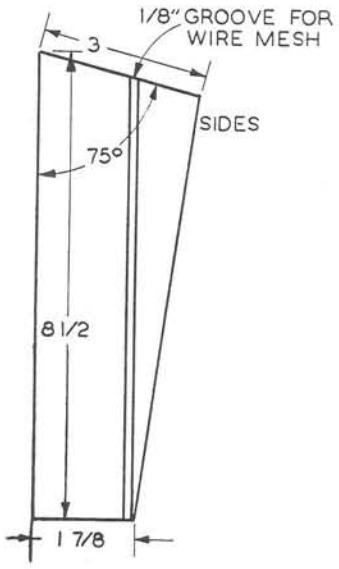
Four hungry mouths to feed. With a suet-seed feeder nearby, it is easier for this busy parent to take care of its young.

bill of materials

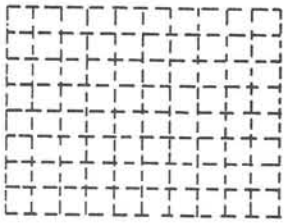
Sides:	2—	½ x 3	x 8½	in.
Floor:	1—	½ x 4	x 5	in.
Back:	1—	½ x 5	x 10¾	in.
Top:	1—	½ x 4	x 7	in.
Edge strips:	1—	¼ x ¾	x 10	in.
Wire mesh:	1—4	x 5¼ in. with ½-in. mesh		

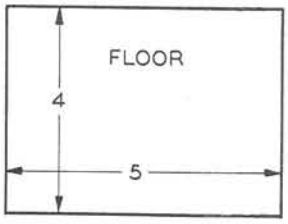
SUET-SEED FEEDER

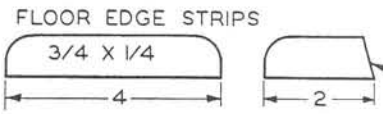




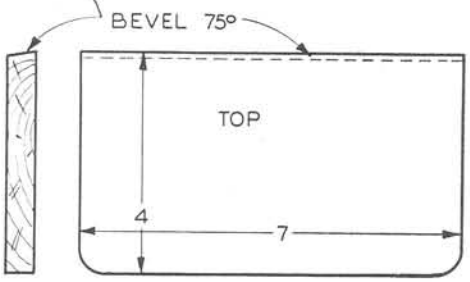
1/2" WIRE MESH 4 X 5 1/4



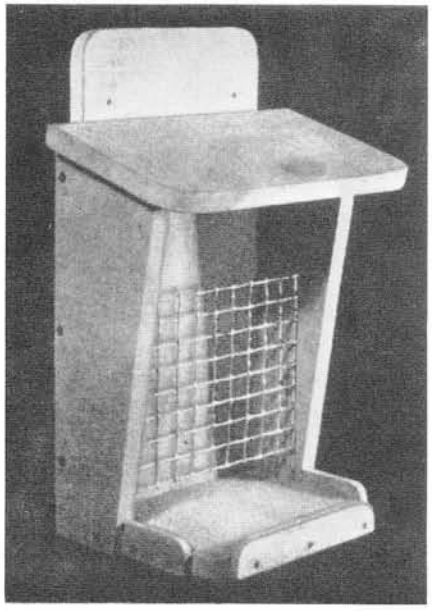




ALL CORNERS 1/2" R.



ALL STOCK 1/2



st. francis feeder

This is an exceptionally attractive garden ornament as well as a practical seed and suet feeder. The figure of St. Francis is 12¾ inches high (without plastic base) and made of plastic. Your local dealer should be able to supply you with one.*

Make the back first and see that all dimensions are accurate. Then nail on the suet rack pieces. Next, nail on the sides and see that the angles correspond with those of the back piece. Fit the statue to a 1⅝-inch base block. You may have to cut a circular piece of ½-inch wood stock to fit inside the base of the statue. Nail this to the base and drill holes in the statue so that it can be fastened to the block with brass screws. Then nail the base to the plywood bottom. Install the side and back assembly and nail it in place. Nail on the roof boards being sure of a tight fit at the ridge. The ridge may be covered with a tin strip. Nail on the edge strips and insert mesh in the suet rack.

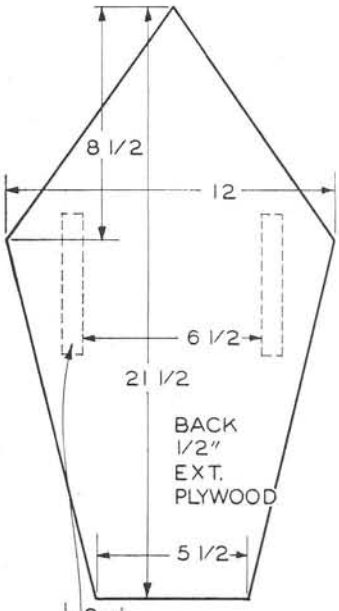
Use outside stain to have the feeder match your house or garden furniture as desired.

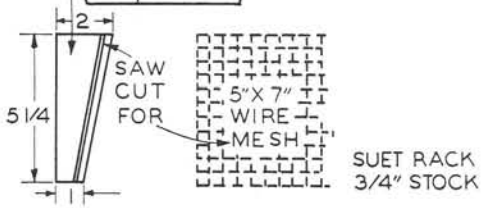
bill of materials

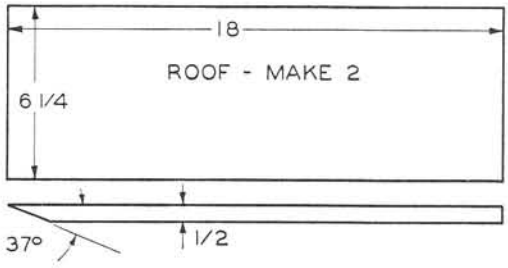
Sides:	2— ½ x 3½ x 12½ in.
Back:	1— ½ x 12 x 21½ in.
Roof:	2— ½ x 6¼ x 18 in.
Bottom:	1— ¾ x 9½ x 14¼ in.
Suet-rack sides:	2— ¾ x 2 x 5¼ in.
Edge strips:	1— ¼ x 1¼ x 12¾ in.
	2— ¼ x 1¼ x 9 in.
	2— ¼ x 1¼ x 4 in.
Base:	1—1⅝ x 5 x 6½ in.
Suet mesh:	1—5 x 7 in.

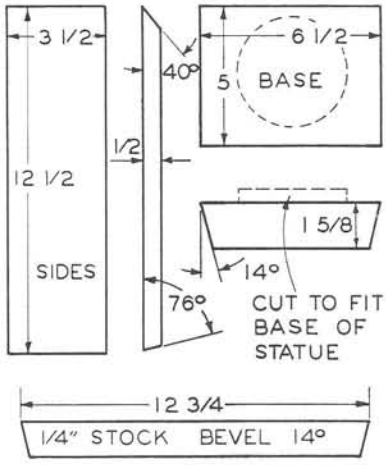
* You can also write to Hartland Plastics, Hartland, Wis.

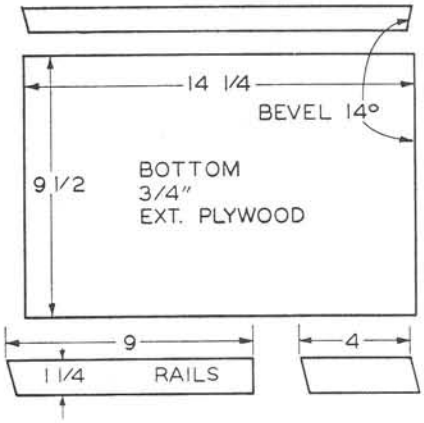
ST. FRANCIS FEEDER









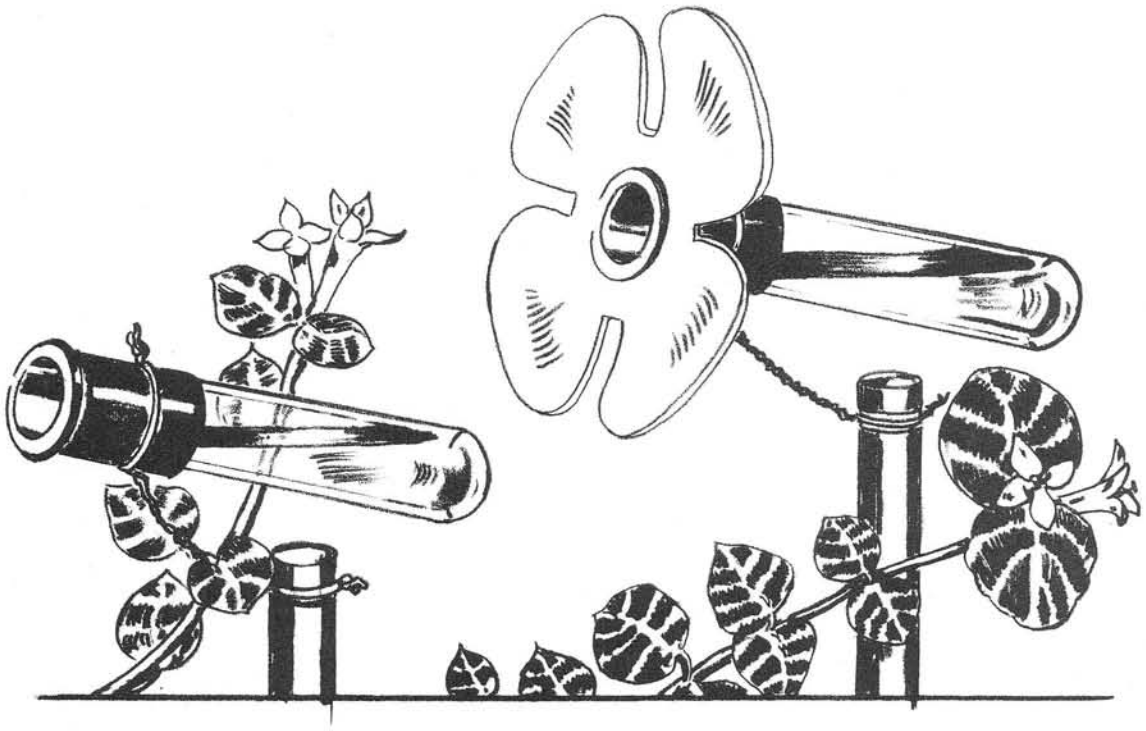


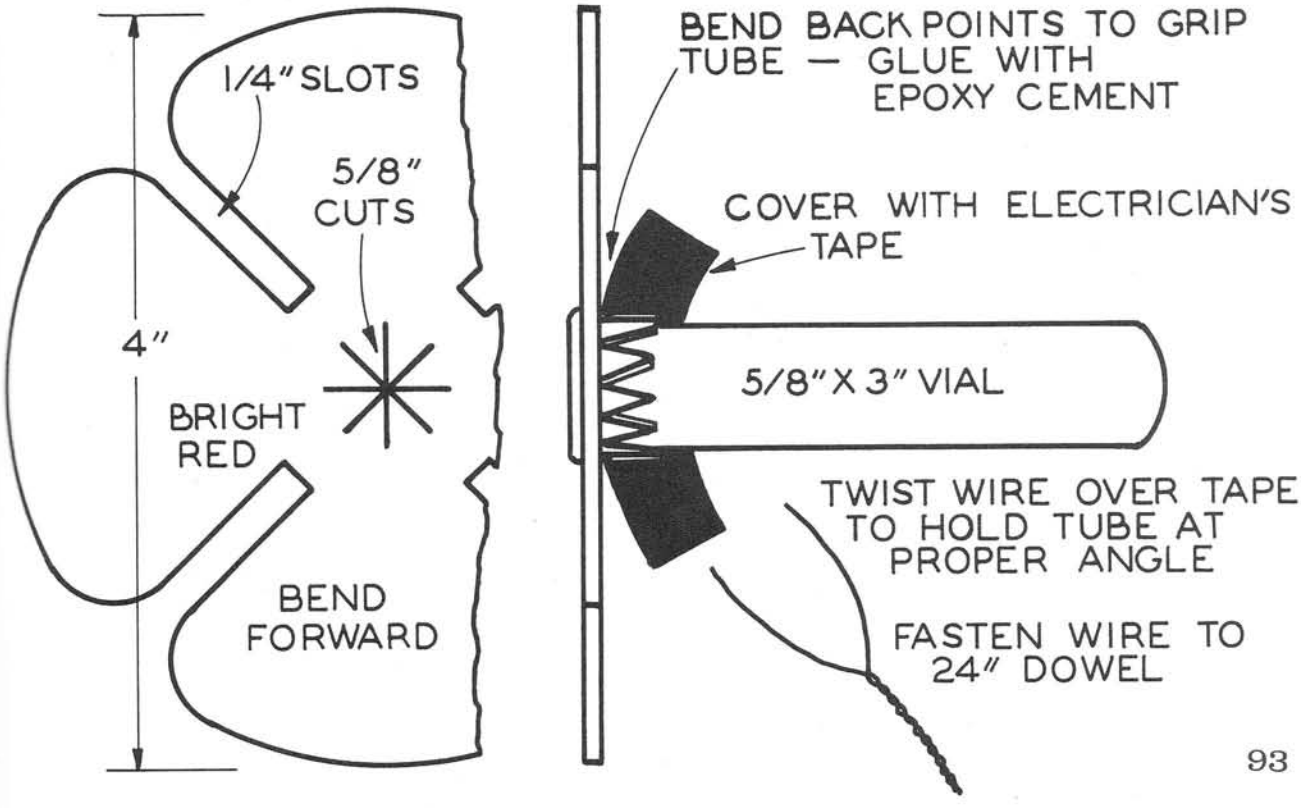
easily built hummingbird feeder

One of the most interesting birds for study is the hummingbird. This sturdy little bird weighs about the same as two sheets of paper and flys, non-stop, across the Gulf of Mexico during migration. The hummingbird is also one of the most attractive visitors to our gardens, and providing a feeder for him is therefore a "must." The feeder is simple to make. Use a small glass or plastic tube about 3 inches long and ⅝ inches in diameter; either a Clinitestube, available at most drugstores, or an ordinary toothbrush holder would do. Wrap a piece of electrician's tape around the end as shown. This provides a "cushion" for the twisted wire that holds the tube to the stake.

To make the unit more attractive and of greater appeal to the hummingbird, you can simulate a flower as shown in the picture to the right (instructions are given in the line drawing). Using very thin aluminum—such as an offset plate or multilith plate easily obtainable from a printer—glue the metal and glass with epoxy cement, and then wrap a piece of tape over the metal as shown. Paint the petals of the "flower" bright red.

The stick for the feeder should be about 3 feet long. Place the feeder right in the middle of your flower bed. For food, use a mixture of two parts water to one part sugar. Fill the feeder with an eye dropper.




1/4" SLOTS
5/8" CUTS
4"
BRIGHT RED
BEND FORWARD
BEND BACK POINTS TO GRIP TUBE — GLUE WITH EPOXY CEMENT
COVER WITH ELECTRICIAN'S TAPE
5/8" X 3" VIAL
TWIST WIRE OVER TAPE TO HOLD TUBE AT PROPER ANGLE
FASTEN WIRE TO 24" DOWEL

hopper feeder II

This is a trim, neat feeder that is simple to make and easy to stock with food. Cut an opening in the top for a 3-in. section of tin can, open at the top and bottom. Seal it into the top with putty. Select another tin can that will fit over the can in the top, cut it down to 3 inches, and place it over the can section in the top. This makes a watertight, easy method of filling the hopper with seeds. Be sure that the grooves in the side pieces for the glass panels have the same angles. Carefully follow the dimensions for the seed tray and the opening below the glass panels so that the seed will flow freely without waste. You may have to experiment here a bit.

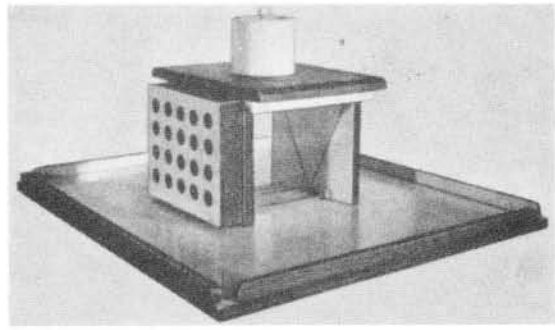
Make the sides and nail them in place, being certain that the glass panels fit. Then assemble the top with the can opening and drip strips, and screw it in place. Complete the feeder by nailing on the edge strips. Make two seed-fat racks so that one can be filled indoors to replace an empty one on the feeder. Note that the edge strips on all feeders are open at the corners to allow drainage of water.

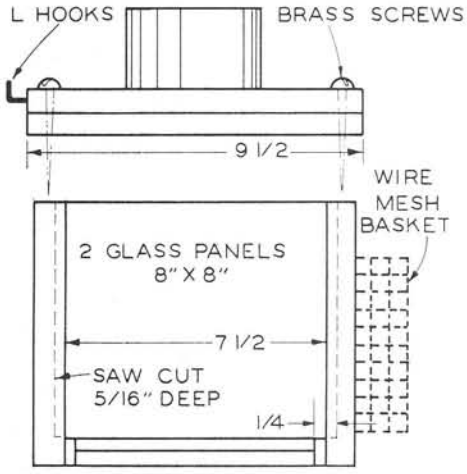
bill of materials

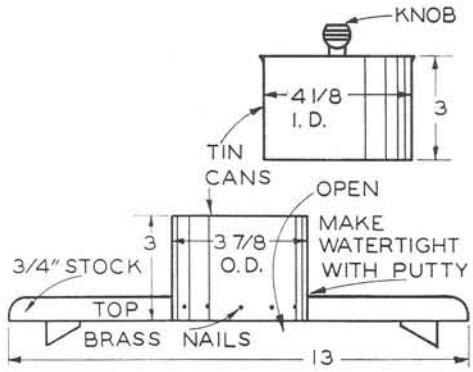
Sides:	2— ¾ x 9 x 7½ in.
Bottom:	1— ¾ x 27 x 27 in.
Top:	1— ¾ x 9½ x 13 in.
Edge strips:	4— ½ x 1¼ x 25½ in.
Seed racks:	2—1⅝ x 8¾ x 7⅛ in.
Drip strips:	2— ¾ x 1 x 9½ in.
Tray strips:	2— ¼ x 11/16 x 5 in.
Tin cans:	3—3⅞-in. and 4⅛-in dia.
Seed tray, galv.:	1—5 x 7 in.
Glass:	2—8 x 8 in.

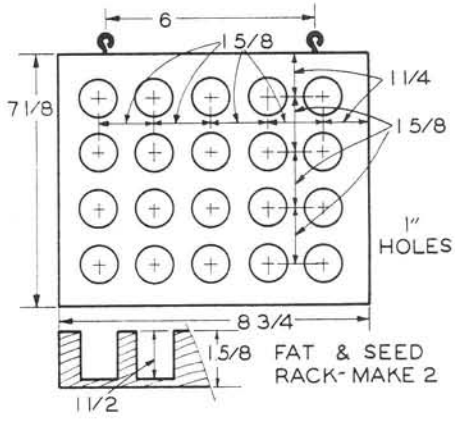
Knob, brass screws, wire mesh, L hooks, nails, screw eyes

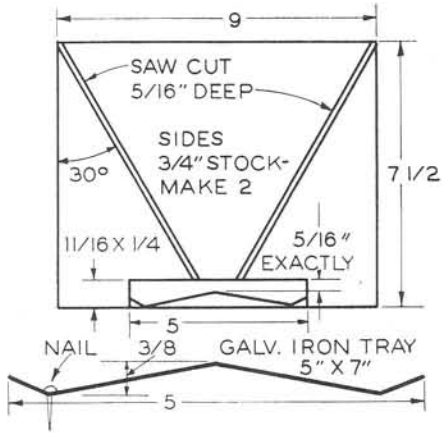
HOPPER FEEDER II

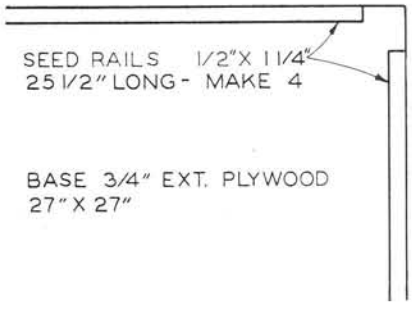


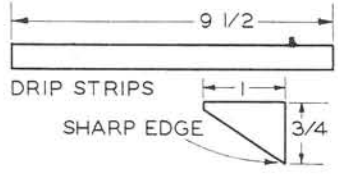








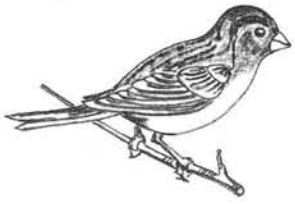




cider-bottle feeder

A cider bottle makes an excellent hopper since the seed is kept dry and free flowing. The bottle rests on a strip that must be exactly 5/16 in. thick—if it is thinner the seed will not flow out; if it is thicker the seed will flow too freely and be wasted. The upright is shown 11 in. high for the ½-gallon bottle used. Check this dimension for your bottle —it should be ¾ in. more than the height of the bottle. The bottle is kept in position by placing or hooking it over a heavy iron peg made from the point of an 8-penny nail. Drill the hole for the nail in the 5/16-in. strip (B) to keep the strip from splitting. The dowels on the underside of the top, which form an enclosure for the bottle, are spaced so there is no binding.

Fill the bottle, place your thumb over the opening, invert the bottle, insert it in the dowel enclosure, and then bring the bottle down and hook it behind the nail peg in the base. Procure two bottles which are exactly alike and make two seed-fat racks. Fill one set indoors to be taken outside to replace the empty set. If you are so equipped, only one trip outside will be required to refill your feeder in cold weather.

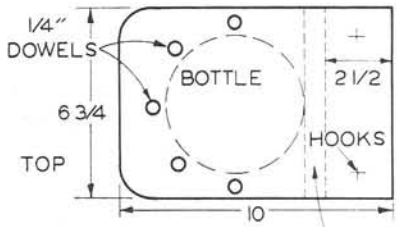


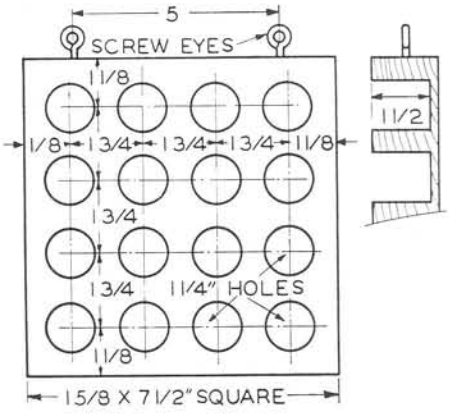
bill of materials

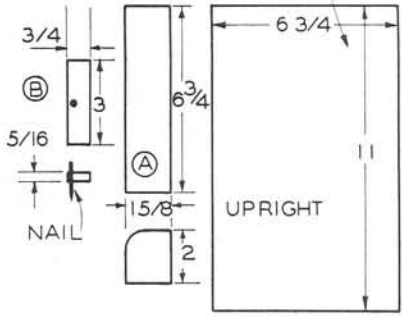
Upright:	1— ¾ x 6¾ x 11	in.
Top:	1— ¾ x 6¾ x 10	in.
Base:	1— ¾ x 24 x 24	in.
Cleat (A):	1—1⅝ x 2 x 6¾	in.
Spacer (B):	1—5/16 x ¾ x 3	in.
Dowels:	5— ¼-in. dia. x 2	in.
Edge strips:	2— ½ x ½ x 24	in.
	2— ½ x ½ x 20	in.
Seed racks:	2—1⅝ x 7½ x 7½	in.

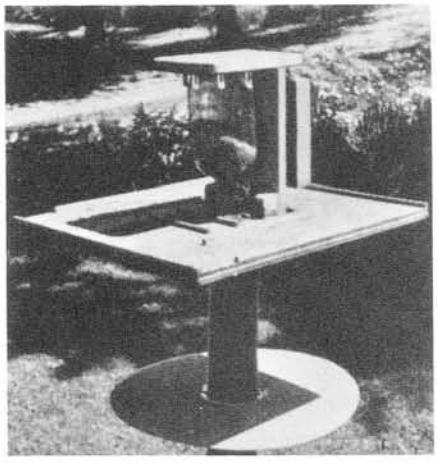
½-gal. cider bottle, headless nail, screw eyes, L hooks, nails

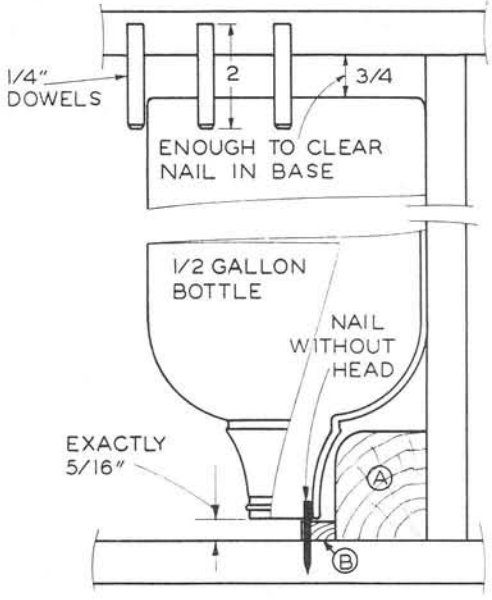
BOTTLE FEEDER

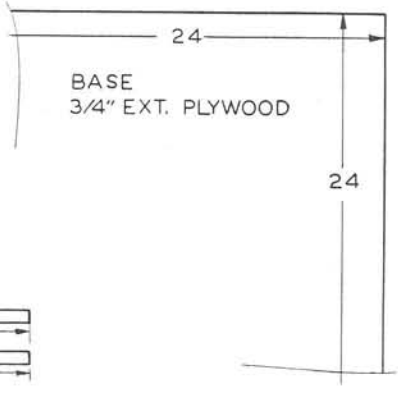












covered feeder

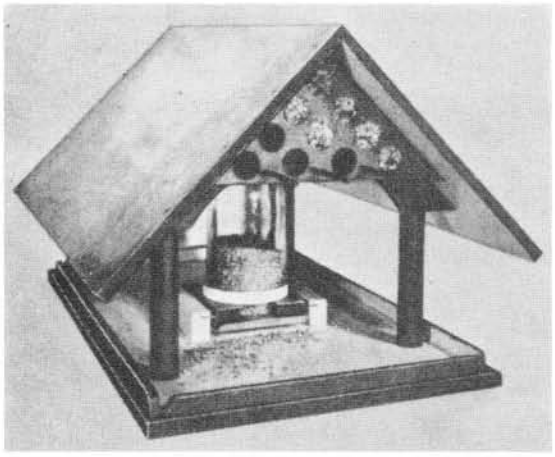
This is the feeder we have outside our breakfast window. One gable end has a replaceable, refillable seed rack; the other gable has a suet basket made of wire mesh. Both rack and seed jar can be filled indoors and easily replaced. A 4½ by 7-inch high peanut-butter jar is used. A 2 by 3-inch hole is cut in the cover. The jar is inverted and, with a 4½-inch diameter stiffener, is bolted to the hopper blocks (B) and formed galvanized-iron seed tray. The horizontal lips of the seed tray slip into grooved sides (A). The 2½ by 7¼-inch seed guard keeps seed from falling out when inverting a jar that has been filled. It is removed when the jar is in place.

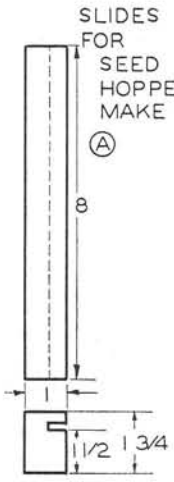
Make the roof ends first. Nail on the roof boards and then screw on the uprights. Nail on the slides (A) from below and see that the seed tray slides easily in the grooves. Nail the edge strips to the bottom and screw the bottom to the uprights from below. Make the wire-mesh suet basket and nail it onto one gable. Make two seed-fat racks, one for feeder and the other to keep inside for refilling.

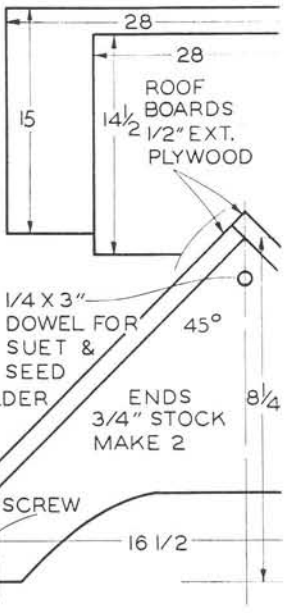
bill of materials

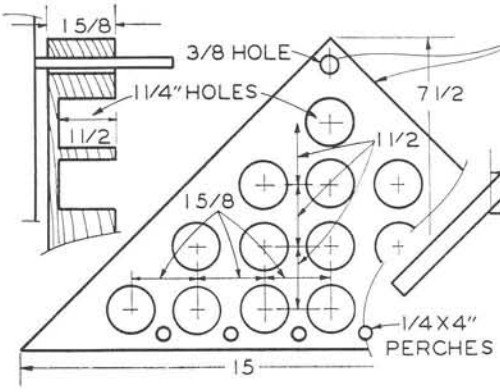
Roof ends:	2— ¾ x 8¼ x 16½ in.
Roof:	1— ½ x 14½ x 28 in.
	1— ½ x 15 x 28 in.
Bottom:	1— ¾ x 17 x 28 in.
Uprights:	4—1⅜-in. dia. x 9 in.
Slides for hopper (A):	2—1 x 1¾ x 8 in.
Edge strips:	2— ½ x 1¼ x 13 in.
	2— ½ x 1¼ x 24 in.
Seed racks:	2—1⅝ x 7½ x 15 in.
Perches:	12— ¼-in. dia. x 4 in.
Dowel:	1— ¼-in. dia. x 3 in.
Seed tray, galv.:	1—9¼ x 7¾ in.
Stiffener:	1—4½-in. dia. to fit cover
Hopper blocks (B):	2—1¼ x 1½ x 5¼ in.
Seed-guard insert:	1—2½ x 7¼ in.
Jar (peanut butter):	1—4½-in. dia. x 7 in. high

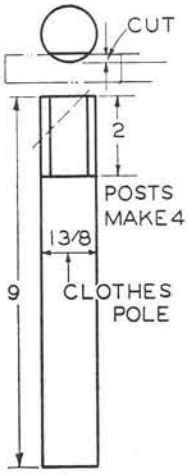
COVERED FEEDER

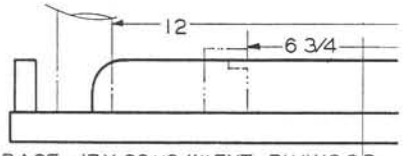


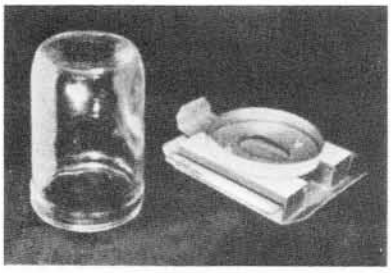


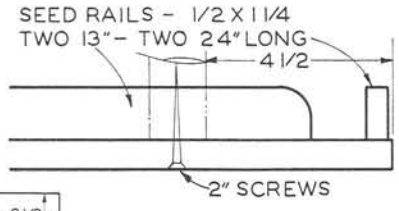


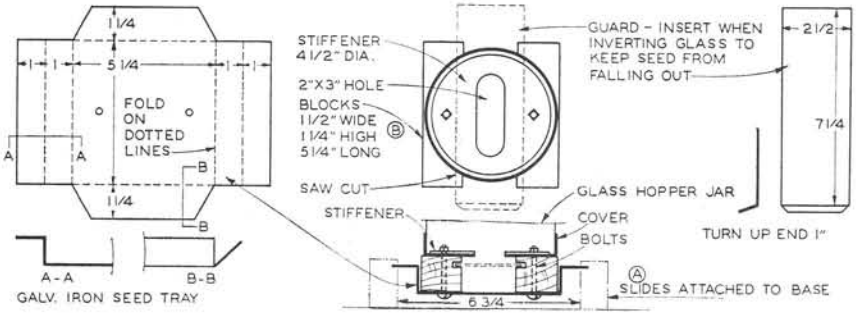












feeder with mason-jar hopper

Here is something new in feeders. It is simple to build and although the feeder has an elaborate appearance, no unusual materials are required. Basically this feeder consists of an inverted Mason jar with holes in the cover which allow the seed to pour out on the triangular platform.

First make the floor or platform out of ¾-in. stock. Outside plywood is very good for this part. Make the rounded end blocks and nail them in place. Then make the side strips and fit them in place. The entire outside can be rounded on a sander if available to make the pieces line up. Next nail the 1 by 1-in. spacer block in place and then drill a ¼-in. hole through it from top to bottom and through the bottom. Screw the screw eyes into each corner block and attach the three chains.

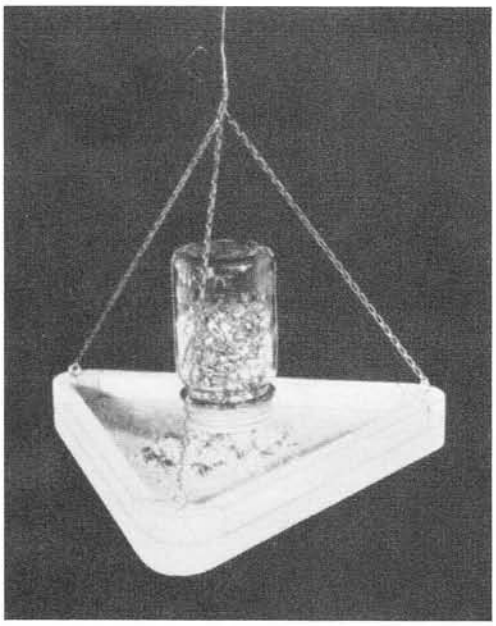
Use a standard pint Mason jar for the hopper. Remove the cover and break out the glass liner. Drill a ¼-in. hole in the exact center of the cover and then drill three ⅞-in. holes as indicated in the drawing. These holes allow the seed to pour out onto the floor. Now cut off the head of a standard ¼-in. dia. by 2-in. bolt. Insert the threaded end of the bolt through the center hole and secure with nuts above and below the cover as shown. Fill the Mason jar with seed, screw on the cover, and insert the bolt end in the hole in the spacer. The feeder is now ready for use.

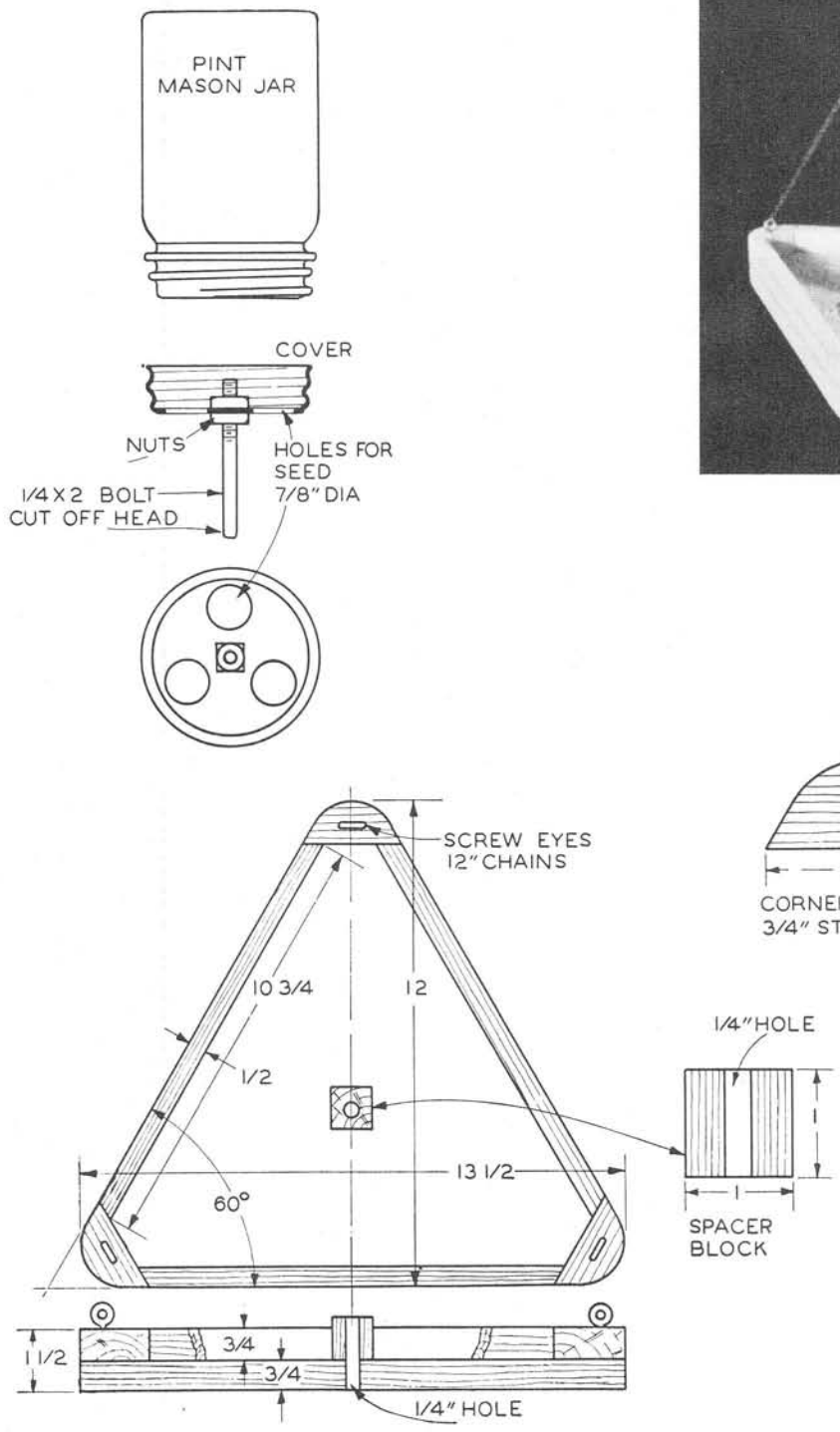
Give the feeder a coat of outside stain and allow it to weather before putting it up.

bill of materials

Bottom:	1—	¾ x 12 x 13½ in.
Corner blocks:	3—	¾ x 1⅛ x 3⅝ in.
Side strips:	3—	½ x ¾ x 10¾ in.
Spacer block:	1—	1 x 1 x 1 in.
Screw eyes:	3—	1¼ in. long
Furnace chains:	3—	16 in. long
Mason jar:	1—	1-pint size
Bolt with nuts:	1—	¼ x 2 in.

FEEDER WITH GLASS HOPPER





coconut shells as feeders

Coconut shells may be used to make very effective feeders. The feeder shown on the left is made from the hollowed-out shell. Drill a 1⅛- or 1¼-in. hole in the side of the coconut. Score the coconut meat with a knife and break it out using a screw driver. Drill drainage holes at the bottom and a hole at the top for the supporting chain.

The photo on the right shows a coconut cut in half with three small holes drilled around the edge to which the chains are attached. Drainage holes in the bottom prevent rain water from collecting. If desired, two or more of these half shells can be hung one below the other by means of wires. The single shell is best, because when several are hung in tandem, the rain water drains off from one into the other. Such feeders, of course, are protected if they are put up on a porch or under some protective overhang.

There are many other devices that can be made out of old dishes, small wooden bowls, cut-down herring pails, small boxes, and the like. There are countless discarded items that will prove very serviceable as feeders. Why not try to develop one that will have your own originality as its trademark?